Appendix C

Applicant-Proposed Measures and Mitigation Measures

Appendix C. Applicant-Proposed Measures and Mitigation Measures

The following applicant proposed measures and mitigation measures for TRTP are approved by CPUC and would apply to the Modified Project.

A.1 Applicant-Proposed Measures

SCE has committed to the implementation of Applicant-Proposed Measures (APMs) to reduce potentially significant adverse impacts related to construction and operation of the proposed Project.

A.1.1 Agricultural Resources

APM AG-1: Coordinate with landowner. Prior to construction and as a part of acquisition of new easements on agricultural lands, SCE would coordinate with agricultural landowners and identify feasible site-specific measures to minimize impacts to ongoing agricultural operations, including, but not limited to, financial consideration for crop loss. General measures that would be implemented to the extent feasible are detailed below.

APM AG-2: Locate project activities to minimize impacts to active agricultural operations. For example, to the extent practical, SCE would:

- Locate new towers adjacent to existing towers in order to consolidate obstructions to the movement of agricultural machinery
- Locate access roads, spur roads, staging areas, and pulling/splicing locations in areas that minimize impacts to agricultural operations
- Minimize removal of perennial crops

APM AG-3: Avoid harvest season. To the extent feasible, construction in agricultural fields would be scheduled after the end of harvest season.

A.1.2 Air Quality

APM AQ-1: Use low sulfur fuel (e.g., <15ppm).

APM AQ-2: Use of clean burning on-road and off-road diesel engines. Where feasible, heavy-duty diesel powered construction equipment manufactured after 1996 (with federally-mandated "clean" diesel engines) would be utilized (see Mitigation Measure AQ-1b).

APM AQ-3: Construction workers will carpool when possible (see proposed Mitigation Measure AQ-1a and AQ-1c).

APM AQ-4: Restrict vehicle idling time to less than 10 minutes whenever possible (see proposed Mitigation Measure AQ-1g).

APM AQ-5: Properly maintain mechanical equipment (see proposed Mitigation Measure AQ-1f).

APM AQ-6: Use particle traps and other appropriate controls to reduce diesel particulate matter (DPM) where possible. Utilize equipment such as specialized catalytic converters (oxidation catalysts) to control approximately 20 percent of DPM, 40 percent of carbon monoxide, and 50 percent of hydrocarbon emissions (see proposed Mitigation Measure AQ-1b).

APM AQ-7: Implement feasible fugitive dust control measures as provided in KCAPCD's Rule 402 and AVAQMD and SCAQMD Rule 403 (see proposed Mitigation Measure AQ-1a).

APM AQ-8: As feasible, restrict construction operations during the morning hours and during high wind events when NOX emissions are more likely to contribute to O3 formation (see proposed Mitigation Measure AQ-1a).

APM AQ-9: Efficiently schedule staff and daily construction activities to minimize the use of unnecessary/duplicate equipment when possible (see proposed Mitigation Measure AQ-1c).

A.1.3 Biological Resources

APM BIO-1: Pre-construction surveys. Pre-construction biological clearance surveys would be performed to minimize impacts on special-status plants or wildlife species.

APM BIO-2: Minimize impacts to vegetation. Every effort would be made to minimize vegetation removal and permanent loss at construction sites. If necessary, native vegetation would be flagged for protection. A project revegetation plan would be prepared for areas of native habitat temporarily affected during construction.

APM BIO-3: Avoid impacts to state and federal jurisdictional wetlands. Construction crews would avoid impacting the streambeds and banks of any streams along the route to the extent feasible. If necessary, a Streambed Alteration Agreement (SAA) would be secured from California Department of Fish and Game. Impacts would be mitigated based on the terms of the SAA. No streams with flowing waters and or those capable of supporting special-status species would be expected to be adversely impacted from project implementation.

APM BIO-4: BMPs. Construction and Operations Crews would be directed to use Best Management Practices (BMPs) where applicable. These measures would be identified prior to construction and incorporated into the construction and maintenance operations.

APM BIO-5: Biological Monitors. Biological Monitors would be assigned to the Project. The monitors would be responsible for ensuring that impacts to special-status species, native vegetation, wildlife habitat, or unique resources would be avoided to the fullest extent possible. Where appropriate, monitors would flag the boundaries of areas where activities need to be restricted in order to protect native plants and wildlife, or special-status species. These restricted areas would be monitored to ensure their protection during construction.

APM BIO-6: Worker Environmental Awareness Program. A Worker Environmental Awareness Program (WEAP) would be prepared and all construction crews and contractors would be required to participate in WEAP training prior to starting work on the project. The WEAP training would include a review of the special-status species and other sensitive resources that could exist in the Project area, the locations of the sensitive biological resources, their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. A record of all personnel trained would be maintained.

APM BIO-7: Compensatory mitigation. Where significant and unavoidable impacts on any special-status resources cannot be avoided, SCE would conduct compensatory mitigation as determined by the regulatory agency.

APM BIO-8: Avoid impacts to active nests. SCE would conduct project-wide raptor surveys and remove trees, if necessary, outside of the nesting season (1 February – 31 August). If a tree or pole containing a raptor nest must be removed during the nesting season, or if work is scheduled to take place in close proximity to an active nest on an existing transmission tower or pole, SCE would coordinate with the CDFG and FWS and obtain written concurrence prior to moving the nest.

APM BIO-9: Avian protection. All transmission and sub-transmission towers and poles would be designed to be raptor-safe in accordance with the Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee [APLIC] 2006).

A.1.4 Cultural Resources

APM CR-1: Conduct an intensive archaeological inventory of all areas that may be disturbed during construction and operation of the Project. A complete cultural resource inventory of the Project area has been conducted (see Technical Appendix I). Should the Project change and areas not previously inventoried for cultural resources become part of the construction plan, SCE shall ensure that such areas are inventoried for cultural resources prior to any disturbance. All surveys shall be conducted and documented as per applicable laws, regulations, and guidelines and in accordance with professional standards.

APM CR-2: Avoid and minimize impacts to significant or potentially significant cultural resources wherever feasible. To the extent practical, SCE shall avoid or minimize impacts to archaeological resources, regardless of its CRHR or NRHP eligibility status. This includes siting all ground-disturbing activities defined in Section 4.6.5 and other Project components outside a buffer zone established around each recorded archaeological site within or immediately adjacent to the ROW. Because many archaeological resources comprise subsurface deposits, features, and artifacts, it may not be possible to recognize all potentially significant attributes of archaeological resources during archaeological testing. There is the potential for making unanticipated discoveries of previously unidentified remains at archaeological sites that could require efforts to reassess their CRHR or NRHP eligibility. Avoiding impacts or minimizing the area of an archaeological resource that could be affected during construction protects the resource and reduces the possibility that unanticipated discoveries would cause Project delays. SCE would avoid or minimize impacts to archaeological resources wherever practical by redesign, reroute, and implementation of avoidance procedures (i.e., establishing Environmentally Sensitive Areas), capping archaeological sites, or other protective measures within or immediately adjacent to access and spur roads that would be used during construction and operations activities. Impacts will be avoided or minimized through the following measures prior to construction.

APM CR-2a: Project Final Design shall avoid direct impacts to significant or potentially significant cultural resources. To the extent practical, all ground-disturbing activities defined in Section 4.6.5 and other Project components shall be sited to avoid or minimize impacts to cultural resources listed as, or potentially eligible for listing as, unique archaeological sites, historical resources, or historic properties.

APM CR-2b: Conduct a pre-construction Worker Education Program. SCE will design and implement a Worker Education Program that will be provided for all TRTP personnel who have the potential to encounter and alter unique archaeological sites, historical resources, or historic properties, or properties that may be eligible for listing in the CRHR or NRHP. This includes construction supervisors as well as field construction personnel. No construction worker will be involved in ground-disturbing activities without having participated in the Worker Education Program. The Worker Education Program shall include, at a minimum:

- A review of applicable local, state and federal ordinances, laws and regulations pertaining to historic preservation
- A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and SCE policies
- A statement by the construction company or applicable employer agreeing to abide by the Worker Education Program, SCE policies and other applicable laws and regulations

- A review of archaeology, history, prehistory and Native American cultures associated with historical resources in the TRTP vicinity
- A review of the SCE "Unanticipated Cultural Resources Discovery Plan"

The Worker Education Program may be conducted in concert with other environmental or safety awareness and education programs for the TRTP, provided that the program elements pertaining to cultural resources is provided by a qualified instructor meeting applicable professional qualifications standards.

APM CR-2c: Establish and maintain a protective buffer zone around each recorded archaeological site within or immediately adjacent to the R-O-W. A protective buffer zone will be establish around each recorded archaeological site and treated as an "environmentally sensitive area" within which construction activities and personnel are not permitted. Monitoring will be conducted to ensure that the protective areas are maintained.

APM CR-3: Evaluate the significance of all cultural resources that cannot be avoided. Cultural resources that cannot be avoided and which have not been evaluated to determine their eligibility for listing in the CRHR or NRHP will be evaluated to determine their historical significance.

Evaluation studies shall be conducted and documented as per applicable laws, regulations, and guidelines and in accordance with professional standards. Evaluation of properties will take into account attributes of each property that could contribute to its historical significance. Evaluation procedures will be consistent with applicable laws, regulations, and guidelines and in accordance with professional standards as follows.

APM CR-3a: Evaluate the significance of archaeological resources potentially eligible for CRHR or NRHP listing. Evaluation of archaeological sites would include scientific excavation of a sample of site constituents sufficient to understand the potential of a site to yield information to address important scientific research questions per CRHR eligibility Criterion 4 and NRHP eligibility Criterion D. Sites with rock art will be evaluated to consider their eligibility per CRHR Criterion 1, and NRHP Criterion A or C. Archaeological testing as part of resource evaluation will be carried out in portions of affected sites to recover an adequate sample of cultural remains that can be used to evaluated the significance of a site per CRHR eligibility Criterion 4 or NRHP Criterion D. Archaeological testing will involve scientific excavations; identification of recovered cultural and ecological remains; cataloging, scientific analysis, and interpretation of recovered materials; preparation of scientific technical reports and reports comprehensible to the general public discussing the archaeological program and its results. Reports of any excavations at archaeological sites will be filed with the appropriate Information Center of the California Historical Resources Information System.

APM CR-3b: Evaluate the significance of buildings and structures potentially eligible for CRHR or NRHP listing. Evaluation of buildings and structures would take into account engineering, aesthetic, architectural and other relevant attributes of each property. Buildings and structures will be evaluated for historical significance per CRHR eligibility Criteria 1, 2 and 3; NRHP criteria A, B, and C. A report of the evaluation of each building or structure will be prepared providing a rationale for an assessment of significance consistent with professional standards and guidelines. Reports of any significance evaluations of buildings and structures will be filed with the appropriate Information Center of the California Historical Resources Information System.

APM CR-3c: Consult Native Americans regarding traditional cultural values that may be associated with archaeological resources. Archaeological or other cultural resources associated with the TRTP may have cultural values ascribed to them by Native Americans. SCE will consult with Native Americans regarding evaluations of resources with Native American cultural remains.

APM CR-4: Minimize unavoidable impacts to significant cultural resources, including Unique Archaeological Sites, Historical Resources, and Historic Properties. SCE will make reasonable efforts to avoid adverse Project effects to unique archaeological sites, historical resources, and historic properties. Nevertheless, it may not be possible to situate all TRTP facilities to completely avoid impacts to significant cultural resources. Impacts to significant cultural resources will be minimized by implementing the following measures.

APM CR-4a: Implement measures to minimize impacts to significant archaeological sites. Prior to construction and during construction, the following measures will be implemented by SCE to minimize unavoidable impacts to significant archaeological sites.

- To the extent practical, all ground-disturbing activities defined in Section 4.6.5 and other Project components shall minimize ground surface within the bounds of unique archaeological sites, historical resources, or historic properties.
- Portions of unique archaeological sites, historical resources, or historic properties that can be avoided will be protected as environmentally sensitive areas and will remain undisturbed by construction activities.
- Monitoring by qualified professionals and/or Native Americans to ensure that impacts to sites are minimized will be carried out at each affected cultural resource for the period during which construction activities pose a potential threat to the site and for as long as there is the potential to encounter unanticipated cultural or human remains.
- Additional archaeological study will be carried out at appropriate sites to ascertain if Project facilities could be located on a portion of a site and cause the least amount of disturbance to significant cultural materials.
- Archaeological data recovery will be carried out in portions of affected significant sites to recover an adequate sample of cultural remains that can be used to address important research questions per CRHR eligibility Criterion 4 or NRHP Criterion D. Archaeological data recovery will involve scientific excavations; identification of recovered cultural and ecological remains; cataloging, scientific analysis, and interpretation of recovered materials; preparation of scientific technical reports and reports comprehensible to the general public discussing the archaeological program and its results.
- Reports of any excavations at archaeological sites will be filed with the appropriate Information Center of the California Historical Resources Information System.

APM CR-4b: Implement measures to minimize impacts to significant buildings and structures. Prior to construction and during construction, SCE will implement the following measures to minimize unavoidable impacts to significant buildings and structures.

- Locate TRTP facilities to minimize effects on significant buildings or structures.
- Document significant architectural and engineering attributes consistent with National Park Service Historic American Buildings Survey/Historic American Engineering Record documentation standards.
- File reports and other documentation with the National Park Service, if appropriate, and appropriate Information Center of the California Historical Resources Information System.

APM CR-5: Prepare and implement a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan. During construction it is possible that previously unknown archaeological or other cultural resources or human remains could be discovered. Prior to construction SCE will prepare a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan to be implemented if an unanticipated discovery is made. At a minimum the plan shall detail the following elements:

- Worker and supervisor training in the identification of cultural remains that could be found in the TRTP area
- Worker and Supervisor response procedures to be followed in the event of an unanticipated discovery including appropriate points of contact for professionals qualified to make decisions regarding the potential significance of any find
- Identification of persons authorized to stop or redirect work that could affect the discovery and their on-call contact information
- Provide for monitoring of construction activities in archaeologically sensitive areas
- Stipulate a minimum radius around any discovery within which work will be halted until the significance of the resource has been evaluated and mitigation implemented as appropriate
- Procedures for identifying and evaluating the historical significance of any find
- Procedures for consulting Native Americans in the process of identification and evaluation of significance of discoveries involving Native American cultural materials
- Procedures to be followed for the treatment of discovered human remains per current state law and protocol developed in consultation with Native Americans.

APM CR-6: Inadvertent discovery of human remains. Any human remains discovered during Project activities will be protected in accordance with current state law as detailed in Technical Appendix I, specifically California Public Resources Code Sections 5097.91 and 5097.98, as amended. The discovery of human remains will be treated as defined in the *Construction Monitoring and Unanticipated Cultural Resources Discovery Plan.*

Archaeological excavations at sites will not, if at all possible, inappropriately disturb or remove human remains. Native Americans will be consulted to develop a protocol to be followed if human remains are encountered during any Project activity.

APM CR-7: Native American participation. Prior to construction SCE will consult with Native Americans identified by the NAHC as having cultural ties to particular areas of the TRTP. Native Americans will be consulted regarding their participation during significance evaluations and data recovery excavations at archaeological sites with Native American cultural remains, and monitoring during Project construction. Native Americans will be consulted to develop a protocol for working with each group should human remains affiliated with that group be encountered during Project activities.

A.1.5 Environmental Contamination and Hazards

APM HAZ-1: Phase I Environmental Site Assessment (ESA). A Phase I ESA would be performed at each new or expanded substation location and along newly acquired transmission line rights-of-way (ROWs). The Phase I ESAs would include an electronic records search of federal, state, and local databases. The electronic records search would be contracted to Environmental Data Resources (EDR), a company which specializes in this type of work and who would produce a comprehensive report for the entire TRTP ROW. The EDR Report is used to identify sites located on federal, state, and local government agency databases which may have the potential to impact the proposed Project. The EDR report would be reviewed and, based on such review, any potential areas of concern along the ROW would be identified for further assessment. In addition, a Phase I ESA, which is compliant with ASTM 1927-05 (ASTM, 2005) would be performed on all property to be acquired. Based on the results of the Phase I ESAs, additional assessment, characterization, and remediation of potential or known subsurface impacts may be conducted prior to construction activities. Such remediation could include the relocation of T/L structures as

necessary to avoid impacted areas, or the removal and disposal of impacted soils and/or groundwater according to applicable regulations.

APM HAZ-2: Hazardous Materials and Waste Handling Management. Hazardous materials used and stored on site for the proposed construction activities – as well as hazardous wastes generated on site as a result of the proposed construction activities – would be managed according to the specifications outlined below.

- Hazardous Materials and Hazardous Waste Handling: A Project-specific hazardous materials management and hazardous waste management program would be developed prior to initiation of the Project. The program would outline proper hazardous materials use, storage and disposal requirements as well as hazardous waste management procedures. The program would identify types of hazardous materials to be used during the Project and the types of wastes that would be generated. All Project personnel would be provided with Project-specific training. This program would be developed to ensure that all hazardous materials and wastes were handled in a safe and environmentally sound manner. Hazardous wastes would be handled and disposed of according to applicable rules and regulations. Employees handling wastes would receive hazardous materials training and shall be trained in hazardous waste procedures, spill contingencies, waste minimization procedures and treatment, storage and disposal facility (TSDF) training in accordance with OSHA Hazard Communication Standard and 22 CCR. SCE would use landfill facilities that are authorized to accept treated wood pole waste in accordance with HSC 25143.1.4(b).
- Construction Stormwater Pollution Prevention Plan (SWPPP): A Project-specific construction SWPPP would be prepared and implemented prior to the start of construction of the transmission line and substations. The SWPPP would utilize Best Management Practices (BMPs) to address the storage and handling of hazardous materials and sediment runoff during construction activities (California Stormwater Quality Association, 2004).
- Transport of Hazardous Materials: Hazardous materials that would be transported by truck include fuel (diesel fuel and gasoline) and oil and lubricants for equipment. Containers used to stored hazardous materials would be properly labeled and kept in good condition. Written procedures for the transport of hazardous materials used would be established in accordance with U.S. Department of Transportation and Caltrans regulations. A qualified transporter would be selected to comply with U.S. Department of Transportation and Caltrans regulations.
- Fueling and Maintenance of Construction Equipment: Written procedures for fueling and maintenance of construction equipment would be prepared prior to construction. Vehicles and equipment would be refueled on site or by tanker trucks. Procedures would include the use of drop cloths made of plastic, drip pans and trays to be placed under refilling areas to ensure that chemicals do not come into contact with the ground. Refueling stations would be located in designated areas where absorbent pad and trays would be available. The fuel tanks would also contain a lined area to ensure that accidental spillage does not occur. Drip pans or other collection devices would be placed under the equipment at night to capture drips or spills. Equipment would be inspected daily for potential leakage or failures. Hazardous materials such as paints, solvents, and penetrants would be kept in an approved locker or storage cabinet.
- Fueling and Maintenance of Helicopters: Written procedures for fueling and maintenance of helicopters would be prepared prior to construction. Helicopters would be refueled at helicopter staging areas or local airports. Procedures would include the use of drop cloths made of plastic, drip pans and trays to be placed under refilling areas to ensure that chemicals do not come into contact with the ground. Refueling areas would be located in designated areas where absorbent pad and trays are available.

- Emergency Release Response Procedures: An Emergency Response Plan detailing responses to releases of hazardous materials would be developed prior to construction activities. It would prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and would include an emergency response program to ensure quick and safe cleanup of accidental spills. All hazardous materials spills or threatened release, including petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of the quantity spilled would be immediately reported if the spill has entered a navigable water, stream, lake, wetland, or storm drain, if the spill impacted any sensitive area including conservation areas and wildlife preserved, or if the spill caused injury to a person or threatens injury to public health. All construction personnel, including environmental monitors, would be aware of state and federal emergency response reporting guidelines.

APM HAZ-3: Soil Management Plan. A Soil Management Plan would be developed and implemented for construction of the proposed Project. The objective of the Soil Management Plan is to provide guidance for the proper handling, onsite management, and disposal of impacted soil that might be encountered during construction activities. The plan would include practices that are consistent with the California Title 8, Occupational Safety and Health Administration (Cal-OSHA) regulations, as well as appropriate remediation standards that are protective of the planned use. Appropriately trained professionals would be on site during preparation, grading, and related earthwork activities to monitor soil conditions encountered. The Soil Management Plan would provide guidelines for the following:

- Identifying impacted soil
- Assessing impacted soil
- Soil excavation
- Impacted soil storage
- Verification sampling
- Impacted soil characterization and disposal

In the event that potentially contaminated soils were encountered within the footprint of construction, soils would be tested and stockpiled. The appropriate CUPA would determine whether further assessment is warranted.

- **APM HAZ-5: Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan**

  - Spill Prevention, Countermeasure, and Control Plan (SPCC Plan). In accordance with Title 40 of the CFR, Part 112, SCE would prepare a SPCC for proposed and/or expanded substations. The plans would include engineered and operational methods for preventing, containing, and controlling potential releases, and provisions for quick and safe cleanup.
  - Hazardous Materials Business Plans (HMBPs). Prior to operation of new or expanded substations, SCE would prepare or update and submit, in accordance with Chapter 6.95 of the CHSD, and Title 22 CCR, an HMBP. The required documentation would be submitted to the CUPA. The HMBPs would include hazardous materials and hazardous waste management procedures and emergency response procedures including emergency spill cleanup supplies and equipment.

A.1.6 Geology, Soils, and Paleontology

APM GEO-1: Seismic design. For new substation construction (e.g., expansion of Antelope Substation), specific requirements for seismic design will be followed based on the Institute of Electrical and

Electronic Engineers' 693 "Recommended Practices for Seismic Design of Substation". (See Mitigation Measure G-6)

APM GEO-2: Perform geotechnical studies. Prior to final design of substation facilities and transmission line tower foundations, a geotechnical study would be performed to identify site-specific geologic conditions in enough detail to support good engineering practice. (See Mitigation Measures G-1, G-4, G-5, G-6, G-7, G-8, and G-9)

APM GEO-3: Construction SWPP. Transmission line and substation construction activities would be performed in accordance with the soil erosion/water quality protection measures specified in the Construction SWPPP. (See Mitigation Measures G-2 and H-1a)

APM PAL-1: The following mitigation measures have been developed to reduce the potential impacts of project construction on paleontological resources to a less than significant level. The measures are derived from the guidelines of the SVP and meet the requirements of Kern and Los Angeles counties and CEQA. These mitigation measures have been used throughout California and have been demonstrated to be successful in protecting paleontological resources while allowing timely completion of construction (See Mitigation Measure G-10):

- A certified paleontologist would be retained by SCE to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed Project. Paleontological monitoring would include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present. The monitor would have authority to temporarily divert grading away from exposed fossils in order to recover the fossil specimens.
- If microfossils are present, the monitor would collect matrix for processing. In order to expedite removal of fossiliferous matrix, the monitor may request heavy machinery to assist in moving large quantities of matrix out of the path of construction to designated stockpile areas. Testing of stockpiles would consist of screen washing small samples to determine if significant fossils are present. Productive tests would result in screen washing of additional matrix from the stockpiles to a maximum of 6,000 pounds per locality to ensure recovery of a scientifically significant sample.
- Quaternary Alluvium, Colluvium, and Quaternary Landslide Deposits have a low paleontological sensitivity level, and would be spot-checked on a periodic basis to insure that older underlying sediments are not being penetrated.
- A certified paleontologist would prepare monthly progress reports to be filed with the client.
- Recovered fossils would be prepared to the point of curation, identified by qualified experts, listed in a database to allow analysis, and deposited in a designated repository.
- At each fossil locality, field data forms would record the locality, stratigraphic columns would be measured, and appropriate scientific samples submitted for analysis.
- The certified paleontologist would prepare a final mitigation report to be filed with the client, the lead agency, and the repository.

A.1.7 Hydrology and Water Quality

APM HYD-1: Construction SWPPP. A Construction SWPPP would be developed for the Project. Notices of Intent (NOIs) would be filed with the SWRCB and/or the RWQCBs, and a Waste Discharge Identification Number (WDID) would be obtained prior to construction. The SWPPP would be stored at the construction site for reference or inspection review. In addition, grading permit applications would be submitted, as applicable, to local jurisdictions. Implementation of the SWPPP would help stabilize graded areas and waterways, and reduce erosion and sedimentation.

The plan would designate BMPs that would be adhered to during construction activities. Erosion minimizing efforts such as straw wattles, water bars, covers, silt fences, and sensitive area access restrictions (for example, flagging) would be installed before clearing and grading begins. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities. During construction activities, measures would be in place to ensure that contaminates are not discharged from the construction sites. The SWPPP would define areas where hazardous materials would be stored, where trash would be placed, where rolling equipment would be parked, fueled and serviced, and where construction materials such as reinforcing bars and structural steel members would be stored. Erosion control during grading of the construction sites and during subsequent construction would be in place and monitored as specified by the SWPPP. A silting basin(s) would be established, as necessary, to capture silt and other materials, which might otherwise be carried from the site by rainwater surface runoff. In addition to a Construction SWPPP, all additionally required documents and procedures (as required in the anticipated April 2009 CGP) will be developed. These procedures may include effluent monitoring, receiving water monitoring, additional staff training, additional documentation, online reporting of all documentation and monitoring results, and project risk analysis.

APM HYD-2: Environmental training program. An environmental training program would be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures, and SWPPP measures, to all field personnel. A monitoring program would be implemented to ensure that the plans are followed throughout the period of construction.

APM HYD-3: Accidental spill control. The Construction SWPPP identified above would include procedures for quick and safe cleanup of accidental spills. The Construction SWPPP would prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and would include an emergency response program to ensure quick and safe cleanup of accidental spills. The SWPPP would identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, would be permitted.

APM HYD-4: Non-storm water and waste management pollution controls. Oil-absorbent materials, tarps, and storage drums would be used to contain and control any minor releases of transformer oil. In the event that excess water and liquid concrete escapes from foundations during pouring, it would be directed to bermed areas adjacent to the borings where the water would infiltrate or evaporate and the concrete would remain and begin to set. Once the excess concrete has been allowed to set up (but before it is dry), it would be removed and transported to an approved landfill for disposal.

APM HYD-5: Hazardous material identification. A Phase I Environmental Site Assessment (ESA) would be performed at each new or expanded substation location and along newly acquired transmission line R-O-Ws. Depending on the results of the Phase I ESA, soil sampling would be conducted and remedial activities would be implemented, if applicable. If hazardous materials were encountered during any construction activities, work would be stopped until the material was properly characterized and appropriate measures were taken to protect human health and the environment. If excavation of hazardous materials is required, they would be handled, transported, and disposed of in accordance with federal, state, and local regulations.

APM HYD-6: Drilling and construction site dewatering management. Any dewatering operations associated with drilling and LST/TSP footing installation would follow applicable state and local regulatory requirements. If groundwater were encountered while excavating or constructing the transmission line or substations, dewatering operations would be performed. These operations would include, as applicable, the use of sediment traps and sediment basins in accordance with

BMP NS-2 (Dewatering Operations) from the California Stormwater Quality Association's (CASQA) California Stormwater BMP Handbook – Construction (CASQA, 2003).

APM HYD-7: Flood and erosion structure damage protection. Transmission towers or other structures would not be placed within waterway protection corridors (floodways) defined by city and county codes. Aboveground project features such as transmission line towers and substation facilities will be designed and engineered to withstand potential flooding and erosion hazards. Although some project features may need to be placed within 100-year floodplain boundaries, they will be designed per applicable floodplain development guidelines. Measures would include specially designed footings to withstand flooding due either to a 100-yr flood event or a failure of a nearby upstream dam or reservoir. The main Project facilities (i.e., substations) will be located outside of known watercourses.

APM HYD-8: Operation Storm Water Management Plan. The post-construction (Operation) Storm Water Management Plan (SWMP) for Vincent Substation would be updated. The SWMP identifies potential pollutants based on the activities that take place at the site, and discusses the appropriate Best Management Practices that should be used to prevent pollutants from entering the storm water and non-storm water runoff from the site. The SWMP also includes requirements for periodic site training for employees and inspections by onsite personnel.

A.1.8 Noise

APM NOI-1: Limit hours and days for construction. SCE would comply with all applicable noise ordinances pertaining to construction hour limitations. In the event that construction must occur outside the allowable work hours, a variance would be obtained.

APM NOI-2: Substation noise minimization. SCE would conduct noise studies at substations where noise emitting equipment is proposed (e.g., Antelope and Vincent substations). The results of these studies would be used to determine appropriate noise minimization measures, such that no local noise ordinance limits would be exceeded. Measures to accomplish this may include specifying quieter equipment from the manufacturer, installing noise control devices, and installing sound barriers and enclosures.

APM NOI-3: Advance notification. SCE would provide advanced notification of construction to the pertinent businesses and residences when appropriate and feasible.

APM NOI-4: Establish toll free number. SCE would establish a toll free telephone number for receiving questions or complaints during construction and develop procedures for responding to callers.

A.1.9 Public Services and Utilities

APM PUB-1: Fire Management Plan. Establishes standards and practices that would minimize the risk of fire danger, and in case of fire, provide for immediate suppression and notification.

A.1.10 Traffic and Transportation

APM TRA-1: Minimize street use. Construction activities would be designed to minimize work on or use of local streets.

APM TRA-2: Obtain permits. When local streets must be used for more than normal traffic purposes, an encroachment permit or similar authorization would be obtained from Caltrans, County, and/or local jurisdictions (or other agency) as applicable.

APM TRA-3: Incorporate protective measures. Any construction or installation work requiring the crossing of a local street, highway, or rail line would incorporate the use of guard poles, netting, or

similar means to protect moving traffic and structures from the activity. If necessary on state highways, continuous traffic breaks operated by the CHP would be planned and provided.

APM TRA-4: Prepare traffic management plans. Traffic control and other management plans would be prepared where necessary to minimize project impacts on local streets.

APM TRA-5: Repair damaged streets. Any damage to local streets would be repaired, and streets would be restored to their pre-project condition.

A.1.11 Visual Resources

APM AES-1: Transmission lines - reduce light reflection off towers/poles. Lattice steel towers (LSTs) and tubular steel poles (TSPs) will be constructed of steel that is galvanized and treated at the factory to create a dulled finish that will reduce reflection of light off of the tower members. As appropriate to the context, the galvanized coating will also be darkened to allow the towers to blend into the backdrops.

APM AES-2: Transmission lines - TSPs near existing residential development. In areas that are in close proximity to existing residential development, TSPs will be specified to provide tower structures that relate visually to the other elements in these settings. The exceptions to this principle are: 1) LSTs are specified at turning tower locations and at long spans because, structurally, TSPs do not have the strength to withstand the forces exerted by the conductors at these locations; and 2) LSTs may be used to match existing structure types adjacent to the Project in the transmission corridor.

APM AES-3: Transmission lines - nonreflective/nonrefractive insulators. The insulators specified for this proposed Project will be made of materials that do not reflect or refract light.

APM AES-4: Transmission lines - nonreflective/nonrefractive conductors. The conductors specified for the Project will be nonspecular, that is, they will be treated at the factory to dull their surfaces to reduce their potential to reflect light.

APM AES-5: Transmission lines - new structures aligned with existing structures. To the extent feasible, new transmission structures that will be located in corridors containing existing transmission lines will be located to line up with the other transmission structures to create a higher level of visual unity.

APM AES-6: Transmission lines - transmission structures set back from major roadways. Where conditions permit, transmission structures will be set back from the crossings of major roadways.

APM AES-7: Transmission lines - avoid structures in middle of lines of sight. To the extent feasible, the final locations of transmission structures will be adjusted to avoid locations that place the structures in the middle of the line of sight from streets and other important views.

APM AES-8: Transmission lines - regrade/revegetate construction sites. Any areas around new or rebuilt transmission structures that must be cleared during the construction process will be regraded and revegetated to restore the area to an appearance that will blend back into the overall landscape context.

APM AES-9: Access roads - Use existing access roads. To the extent feasible, existing access roads will be used.

APM AES-10: Access roads - helicopter construction. In mountainous areas, particularly in the ANF, helicopters will be used for construction of towers in areas where extensive new road development would be required.

APM AES-11: Access roads - minimize road modifications. Widening and grading of roads will be kept to the minimum required for access by proposed Project construction equipment.

APM AES-12: Access roads - dust suppression. During the construction period, dust suppression measures will be used to minimize the creation of dust clouds potentially associated with the use of the access roads.

APM AES-13: Access roads - cut and fill slope revegetation. Any areas of exposed cut and fill slope created in the process of widening existing access roads or creating new access roads will be revegetated, as practicable, to blend back into the surrounding landscape.

APM AES-14: Marshalling yards and laydown areas - reuse previously disturbed/low visibility, low sensitivity areas for marshalling yards. To the extent feasible, the sites selected for use as marshalling yards and laydown areas will be areas that are already disturbed, in locations of low visual sensitivity.

APM AES-15: Marshalling yards and laydown areas - cover chain-link fencing with fabric. During the construction period, the temporary chain-link fences surrounding the marshalling yards and laydown areas will be covered with fabric to limit views into these sites and to create a unified, tidy appearance.

APM AES-16: Marshalling yards and laydown areas - reduce glare and light spill. The lighting specified for the marshalling yards and laydown areas will be the minimum required to meet safety and security standards. All light fixtures will be hooded to eliminate any potential for glare effects and to prevent light from spilling off the site or up into the sky. In addition, the fixtures will have sensors and switches to permit the lighting to be turned off at times when it is not required.

APM AES-17: Marshalling yards and laydown areas - construction site cleanup. When the construction period is over, the fencing around the marshalling yards and laydown areas will be removed, the sites will be cleaned up, and their surfaces will be restored.

APM AES-18: Substations - reflectivity finish. Substation equipment will be specified with a low reflectivity, neutral finish. SCE will request dull finishes. Some equipment may not be available with a dull finish.

APM AES-19: Substations - nonreflective/nonrefractive insulators. All insulators at the substations and on the takeoff equipment will be nonreflective and nonrefractive.

APM AES-20: Substations - low reflectivity finish on structures. The surfaces of all structures will be given low reflectivity finishes with neutral colors to minimize the contrast of the structures with their backdrops.

APM AES-21: Substations - reduce glare and light spill. The lighting specified for the new and expanded substations will be the minimum required to meet safety and security standards. All light fixtures will be hooded to eliminate any potential for glare effects and to prevent light from spilling off the site or up into the sky. In addition, the fixtures will have sensors and switches to permit the lighting to be turned off at times when it is not required.

APM AES-22: Substations - chain-link dulled finish. The chain-link fences surrounding the substations will have a dulled, darkened finish to reduce contrast with its surroundings.

APM AES-23: Substations - Landscape Plan. An appropriate landscape plan will be prepared for the area on the west side of the Vincent Substation expansion to screen the equipment from view and blend the substation into the surroundings.

A.1.12 Wilderness and Recreation

APM REC-1: Temporary closures. When temporary, short-term park or trail closures (including off-highway vehicle [OHV] routes and the PCT) are necessary for construction activities, SCE would

coordinate those closures with applicable agencies. To the extent practicable, SCE would schedule construction activities to avoid heavy recreational use periods, such as holidays.

APM REC-2: Closure notices. When temporary park or trail closures are necessary, SCE would post notice of the closure onsite 30 days prior to the closure and alternative access routes, when applicable.

APM REC-3: Revegetation. Any park areas temporarily affected by Project construction would be revegetated and returned to their original state. SCE would coordinate with owners of landscaped areas, parks, and hillsides to restore disturbed areas to a condition equal to or better than original.

APM HAZ-4: Fire Management Plan. The Fire Management Plan, developed by SCE and presented in the PEA as Appendix D, would be implemented.

A.2 Mitigation Measures

A.2.1 Agricultural Resources

AG-1 Coordinate construction activities with agricultural landowners. SCE shall coordinate with property owners of Farmland (Prime Farmland, Farmland of Statewide Importance, Unique Farmland) and Williamson Act lands that will be used for construction of the Project, including access and spur roads, staging areas, and other Project-related activities. The purpose of this coordination is to establish the use of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Williamson Act lands during construction in order to: (1) schedule construction activities at a location and time when damage to agricultural operations would be minimized, to the extent practicable; and (2) ensure that any areas damaged or disturbed by construction are restored to a condition that closely approximates conditions that existed prior to construction-related disturbance, to the extent practicable.

SCE's coordination with the agricultural landowners in the areas where Farmland or Williamson Act land will be temporarily disturbed is intended to minimize disruption to agricultural operations. This includes avoiding construction during peak planting, growing, and harvest seasons, if feasible, based on outage limitations. If damage or destruction occurs, SCE shall perform restoration activities on the disturbed area in order to return the area to a condition that closely approximates conditions that existed prior to construction-related disturbance. This could include activities such as soil preparation, regrading, and reseeding. SCE shall document its coordination efforts with affected agricultural landowners regarding the continued use of Farmland and/or Williamson Act lands and shall submit this documentation to the CPUC/FS at least 30 days prior to the start of any construction activities on the affected agricultural parcels.

A.2.2 Air Quality

AQ-1a Implement construction Fugitive Dust Control Plan. SCE shall develop a Fugitive Dust Emission Control Plan (FDECP) for construction work. The plan shall be completed prior to construction and approved by the CPUC and FS. This Plan is in addition to any fugitive dust control plan required by the South Coast Air Quality Management District (SCAQMD). Measures to be incorporated into the plan shall include, but are not limited to the following:

- Non-toxic soil binders, equivalent or better in efficiencies than the CARB approved soil binders, shall be applied per manufacturer recommendations to active unpaved roadways, unpaved staging areas, and unpaved parking area(s) throughout construction to reduce fugitive dust emissions. On NFS lands, SCE shall obtain FS approval of any soil binders to be used.

- Unpaved road travel will be limited to the extent possible by; limiting the travel of heavy equipment in and out of the unpaved areas (move from construction site to construction site rather than back to marshalling or staging areas daily); through carpooling/busing construction workers to the maximum feasible extent; and by developing travel routes to each construction site that minimize unpaved road travel to the extent possible, according to FS or other regulatory agency road use restriction. The FDECP will include a road travel plan applicable for construction sites with unpaved access greater than one mile.
- Water the disturbed areas of the active construction sites at least three times per day and more often if uncontrolled fugitive dust is noted.
- Enclose, cover, water twice daily, and/or apply non-toxic soil binders according to manufacturer's specifications to exposed piles with a five percent or greater silt content.
- Maintain unpaved road vehicle travel to the lowest practical speeds, and no greater than 15 miles per hour (mph), to reduce fugitive dust emissions.
- All vehicle tires shall be inspected, are to be free of dirt, and washed as necessary prior to entering paved roadways.
- Install wheel washers or wash the wheels of trucks and other heavy equipment where vehicles exit unpaved access to the construction sites.
- Cover all trucks hauling soil and other loose material, or require at least two feet of freeboard.
- Establish a vegetative ground cover (in compliance with biological resources impact mitigation measures) or otherwise create stabilized surfaces on all unpaved areas at each of the construction sites within 21 days after active construction operations have ceased.
- Increase the frequency of watering, if water is used as a soil binder for disturbed surfaces, or implement other additional fugitive dust mitigation measures, to all active disturbed fugitive dust emission sources when wind speeds (as instantaneous wind gusts) exceed 25 mph.

SCAQMD Rule 403 Best Available Control Measures (BACM) are required to be proposed in the FDECP and implemented when and if the BACM are as strict or stricter than the control measures listed above. Additionally, mitigation measures provided on the SCAQMD CEQA website Tables XI-A through XI-E (http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/ MM_fugitive.html or as updated by SCAQMD) must be implemented in the FDECP where applicable. This mitigation measure covers construction work performed within all three local air quality jurisdictions.

AQ-1b Off-road diesel-fueled equipment standards. All off-road construction diesel engines not registered under CARB's Statewide Portable Equipment Registration Program, which have a rating of 50 horsepower (hp) or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 50 hp, that engine shall have tailpipe retrofit controls that reduce exhaust emissions of NOx and PM to no more than Tier 2 emission levels. Tier 1 engines will be allowed on a case-by-case basis only when the Project owner has documented that no Tier 2 equipment or emissions equivalent retrofit equipment is available for a particular equipment type that must be used to complete the Project's construction. This shall be documented with signed written correspondence by the appropriate construction contractor along with documented correspondence with at least two construction equipment rental firms. Equipment properly registered under and in compliance with

CARB's Statewide Portable Equipment Registration Program are in compliance with this mitigation measure.

AQ-1c **Limit vehicle traffic and equipment use.** Construction worker carpooling will be encouraged and other vehicle trips and equipment use will be limited to the extent practical by efficiently scheduling staff and daily construction activities to minimize the use of unnecessary/duplicate equipment when possible.

AQ-1d **Heavy duty diesel haul vehicle on-road equipment standards.** Require the use of 2006 engines or pre-2006 engines with CARB certified Level 3 diesel emission controls for all on-road heavy duty diesel haul vehicles that are contracted on a continuing basis for use to haul equipment and waste for the Project.

AQ-1e **On-road vehicles standards.** All on-road construction vehicles, other than those meeting the requirements of measure AQ-1d (Heavy Duty Diesel Haul Vehicle On-road Equipment Standards), shall meet all applicable California on-road emission standards and shall be licensed in the State of California. This does not apply to construction worker personal vehicles.

AQ-1f **Properly maintain mechanical equipment.** The construction contractor shall ensure that all mechanical equipment associated with Project construction is properly tuned and maintained in accordance with the manufacturer's specifications.

AQ-1g **Restrict diesel engine idling to 5 minutes.** Diesel engine idle time shall be restricted to no more than 5 minutes. Exceptions are vehicles that need to idle as part of their operation, such as concrete mixer trucks.

AQ-1h **Schedule deliveries outside of peak traffic hours.** All material deliveries to the marshalling yards and from the marshalling yards to the construction sites shall be scheduled outside of peak traffic hours (6:00 to 9:30 am and 3:30 to 6:30 pm) to the extent feasible, and other truck trips during peak traffic hours shall be minimized to the extent feasible.

AQ-1i **Off-road gasoline-fueled equipment standards.** As practicable, all off-road stationary and portable gasoline powered equipment shall have EPA Phase 1/Phase 2 compliant engines, where the specific engine requirement shall be based on the new engine standard in affect two years prior to the initiating Project construction. In the event that EPA Phase 1/Phase 2 compliant engines are determined not to be practicable, SCE shall provide documentation to the CPUC and FS with an explanation.

AQ-1j **Reduction of helicopter emissions.** Helicopter use will be limited to the extent feasible and helicopters with low emitting engines shall be used to the extent practical.

AQ-6 **General conformity emission offset mitigation.** In the event that the final emission estimate for the selected Project alternative as provided in the Project's Conformity Analysis exceeds the NOx and/or VOC emission applicability thresholds, and assuming the SCAQMD does not provide confirmation that the Project's emissions are accounted for in the State Implementation Plan (SIP) emission estimates per 40 CFR §93.158(a)(1), then the Project will obtain emission reduction credits to fully offset the NOx and/or VOC emissions per 40 CFR §93.158(a)(2) for the years that the Project has been estimated to exceed the NOx and/or VOC emission applicability thresholds. Credits shall be submitted to the CPUC and FS for review and approval.

A.2.3 Biological Resources

B-1a **Provide restoration/compensation for impacts to native vegetation communities.** The intent of this mitigation measure is to require SCE to restore disturbed sites to pre-construction conditions or the desired future conditions per the Angeles National Forest (ANF), Land Management Plan (LMP). Prior to construction SCE shall have a qualified biologist, where

concurrence on the biologist has been provided by the CPUC and FS, document the community type and acreage of vegetation that would be subject to project disturbance. Impacts to all oaks and native trees (with >3 inch diameter at breast height [DBH]) will be documented by identifying the species, number, location, and DBH. On non-Federal lands all protection and replacement measures shall be consistent with applicable local jurisdiction requirements, such as the Los Angeles County Oak Tree Ordinance. Tree removal shall not be permitted until replacement trees have been planted or transplanting sites are approved.

For NFS lands, the FS shall prepare a Habitat Restoration and Revegetation Plan in discussion with SCE for the Project, which shall include plans for restoration, enhancement/re-vegetation and/or mitigation banking. For non-Federal lands SCE shall prepare the Habitat Restoration and Revegetation Plan. Both plans shall include at minimum: (a) the location of the mitigation site (off site mitigation may be required); (b) locations and details for top soil storage (c) the plant species to be used; (d) seed and cutting collecting guidelines; (d) a schematic depicting the mitigation area; (e) time of year that the planting will occur and the methodology of the planting; (f) a description of the irrigation methodology for container, bareroot or other planting needing irrigation; (g) measures to control exotic vegetation on site; (h) success criteria; (i) a detailed monitoring program; j) locations and impacts to all oaks and native trees (over 3 inches DBH); (k) locations of temporary or permanent gates, barricades, or other means to control unauthorized vehicle access on access and spur roads as deemed necessary by the FS (NFS lands only).

SCE shall utilize a CPUC/FS/USACE-approved locally collected seed mix, locally collected cuttings, bare-root stock, etc. to revegetate areas disturbed by construction activities. All habitats dominated by non-native species prior to Project disturbance shall be revegetated using appropriate native species. FS approval is required for seeding on NFS land. The seed mix shall consist of native, locally occurring species collected from local seed sources. Cuttings and bare-root stock shall be of local origin. Restoration shall include the revegetation of stripped or exposed work sites and/or areas to be mitigated with vegetation native to the area. No commercially purchased seeds, stock, etc will be accepted without the approval of the FS on NFS lands and must be certified to be free of noxious weeds. Revegetation shall include ground cover, grass, shrub, and tree species in order to match disturbed areas to surrounding conditions and to restore or improve wildlife habitat quality to pre-project or higher levels. The Habitat Restoration and Revegetation Plan shall also include a monitoring element. Post seeding and planting monitoring will be yearly from years one to five and every other year from years six to ten, or until the success criteria are met. SCE shall restore temporarily disturbed areas, including existing tower locations that are to be removed by the Project, to pre-construction conditions or the desired future conditions per the LMP. If the survival and cover requirements have not been met, SCE is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements as previously mentioned.

The FS will conduct a preconstruction evaluation of the probable impacts to all oaks and native trees in all construction-related disturbance areas. This evaluation shall be incorporated into the Habitat Restoration Plan and shall include the species and number of individuals, their DBH, location and potential impact type. Construction within the driplines of all native trees and oak trees/shrubs, and incidental trimming or damage to trees along the proposed access/spur routes shall not occur until the trees are evaluated by an FS botanist or qualified arborist. This person shall identify appropriate measures to minimize tree loss, such as the placement of fence around the dripline, padding vehicles, minimizing soil removal or addition around driplines, and the placement of matting under the existing dripline during construction activities. On the ANF, if a tree must have any construction-related activities such as equipment or soil staging within the drip zone, root pruning, or excessive branch pruning (greater than 25% in one year), then the tree must

be monitored for five years for tree mortality. If any of these identified trees dies during the monitoring period, then the tree must be mitigated at the rate appropriate to the DBH.

The replacement ratios (using rooted plants in liners or direct planting of acorns [for oaks]) for native trees or any oaks which are to be removed shall be as follows: trees from 3 to 5 inches DBH shall be replaced at 3:1; trees from 5 to 12 inches shall be replaced at 5:1; trees from 12 to 24 inches shall be replaced at 10:1; trees from 24 to 36 inches shall be replaced at 15:1; and all oaks greater than 36 inches shall be replanted at a ratio of 20:1. The replacement ratio for damaged trees shall be 2:1 for trees with DBH less than 12 inches and a 5:1 ratio for trees with DBH greater than 12 inches. The DBHs for scrub oaks will be measured following DFG guidelines. On the ANF any oak or native tree which must be removed or killed as a result of construction or other Project-related activities shall be replaced in kind or mitigated at a comparable value. Compliance shall be evaluated annually for years one to five and bi-annually for years six to ten (years after tree planting). Trees shall be planted at locations acceptable to the landowner or managing agency. All planting locations, procedures, and results shall be evaluated by a qualified arborist and FS botanist. On non-Federal lands all protection and replacement measures shall be consistent with applicable local jurisdiction requirements, such as the Los Angeles County Oak Tree Ordinance.

Permanent impacts on federal lands shall be determined by the appropriate federal manager (FS and USACE) and on non-federal lands shall be determined by the CPUC at the ratios stated below or at a comparable value. On NFS lands impacts will be considered permanent if they are not likely to recover after ten years post-disturbance. Where onsite restoration is planned for mitigation of temporary impacts to vegetation communities, SCE shall identify a Habitat Restoration Specialist, where concurrence has been provided by the CPUC/FS, to implement the method of restoration outlined by the FS in the Habitat Restoration Plan.

The creation or restoration of habitat shall be monitored annually for years one to five on both FS lands and private/State/USACE lands and bi-annually for years six to ten on FS lands, or until the success criteria are met, after mitigation site construction to assess progress and identify potential problems with the restoration site. Remediation activities (e.g. additional planting, removal of non-native invasive species, or erosion control) shall be taken during the ten-year period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria after the ten-year maintenance and monitoring period, monitoring and remedial activities shall extend beyond the ten-year period until the criteria are met or unless otherwise specified by the CPUC/FS/USACE (as appropriate). If a fire occurs in a revegetation area within the ten year monitoring period, SCE shall be responsible for a one-time replacement. If a second fire occurs, no replanting is required, unless the fire is caused by SCE activity. Off-site mitigation for NFS and non-NFS lands may be required if mitigation rates exceed what can be achieved on NFS land. This may be in the form of funding for land purchase for inclusion into the Angeles National Forest, mitigation banking, removing existing structures, or comparable restoration efforts.

During and after construction, FS-identified entrances to access roads on NFS lands shall be gated or blockaded in some manner and maintained to prevent the unauthorized use of these roads by the general public. Signs prohibiting unauthorized use of the access roads shall be posted on these gates.

Mitigation Ratios for Impacts to Vegetation Communities				
Vegetation Community	Mitigation Ratios – Non-NFS Lands		Mitigation Ratios – NFS/Federal Lands	
	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
Woodland Vegetation				
Bigcone Douglas Fir-Canyon Oak Forest	1:1	2:1	2:1	5:1
Canyon Oak Forest	-	-	1:1	5:1
California Bay Forest	1:1	2:1	1:1	5:1
California Walnut Woodland	1:1	1.5:1	-	-
Coast Live Oak Woodland	1:1	1.5:1	1:1	5:1
Coulter Pine Forest	-	-	1:1	3:1
Joshua Tree Woodland	1:1	2:1	-	-
Mojavean Pinyon Woodland	1:1	2:1	2:1	5:1
Non-native Woodland	1:1*	1:1*	1:1*	1:1*
Yellow Pine Forest (Plantation)	-	-	1:1	3:1
Shrub-dominated Vegetation				
Big Sagebrush Scrub	1:1	1:1	1:1	3:1
Coastal Sage Scrub	1:1	1.5:1	2:1	5:1
Desert Saltbush Scrub	1:1	1:1	-	-
Chamise Chaparral	-	-	1:1	3:1
Mixed Chaparral	1:1	1:1	1:1	3:1
Scrub Oak Chaparral	-	-	1:1	5:1
Interior Live Oak Scrub	-	-	1:1	5:1
Mojave Creosote Bush Scrub	1:1	1:1	-	-
Mojave Mixed Woody Scrub	1:1	1:1	-	-
Mojavean Juniper Woodland and Scrub	1:1	1.5:1	2:1	5:1
Mojavean Pinyon and Juniper Woodland, Recently Burned	-	-	2:1	5:1
Mulefat Scrub	1:1	3:1	2:1	5:1
Rabbitbrush Scrub	1:1	1:1	-	-
Restoration– California Buckwheat Scrub	-	-	1:1	1:1
Riversidean Alluvial Fan Sage Scrub	1:1	3:1	2:1	5:1
Riparian Vegetation				
Desert Wash	1:1	3:1	2:1	5:1
Ruderal Wetland	1:1*	1:1*	-	-
Exotic-Giant Reed	1:1*	1:1*	1:1*	1:1*
Southern Arroyo Willow Riparian Forest	1:1	3:1	2:1	5:1
Southern Coast Live Oak Riparian Forest	1:1	3:1	2:1	5:1
Southern Cottonwood Willow Riparian Forest	1:1	3:1	2:1	5:1
Southern Sycamore-Alder Riparian Forest	1:1	3:1	2:1	5:1
Southern Willow Scrub	1:1	3:1	2:1	5:1
Sparsely Vegetated Streambed	1:1	3:1	2:1	5:1
Herbaceous Vegetation				
Bunchgrass Grassland	1:1	1.5:1	-	-
California Annual Grassland	1:1	1:1	1:1	3:1
Deerweed and Chia Herbaceous Field, Recently Burned	1:1	1:1	2:1	3:1
Desert Bunchgrass Grassland	1:1	1.5:1	-	-
Wildflower Field	1:1	1:1	2:1	3:1
Anthropogenic Vegetation				
Agriculture	0:1	0:1	-	-
Barren/developed	1:1*	1:1*	1:1*	1:1*
Ruderal Grassland	1:1*	1:1*	1:1*	1:1*
Ratios on Non-NFS Lands may be adjusted based on existing site conditions and disturbance levels with approval of the CPUC. Ratios could range from 0.5 to maximum noted in this Table based on site evaluation. *Non-native habitats will be reseeded with a native seed mix. Barren areas will be mitigated at a 1:1 ratio if they are determined to support sensitive wildlife (i.e. burrowing owls, etc.)				

B-1b **Implement a Worker Environmental Awareness Program.** A Worker Environmental Awareness Program (WEAP) shall be implemented for construction crews by a qualified biologist(s) provided by SCE, where concurrence has been provided by the CPUC/FS prior to the commencement of construction activities. Training materials and briefings shall include but not be limited to: discussion of the Federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act; the consequences of non-compliance with these acts; identification and values of plant and wildlife species and significant natural plant community habitats; fire protection measures; sensitivities of working on NFS lands and identification of FS sensitive species; hazardous substance spill prevention and containment measures; a contact person in the event of the discovery of dead or injured wildlife; and review of mitigation requirements. The WEAP shall also include the protocol to be followed when road kill is encountered in the work area or along access roads to minimize potential for additional mortality of scavengers, including listed species such as the California condor. On NFS lands, road kill shall be reported to the FS or other applicable agency within 24 hours. On non-NFS lands, road kill shall be reported to the appropriate local animal control agency within 24 hours. Training materials and a course outline shall be provided to the CPUC and FS for review and approval at least 30 days prior to the start of construction. Maps showing the location of special-status wildlife, fish, or populations of rare plants, exclusion areas, or other construction limitations (i.e., limited operating periods) will be provided to the environmental monitors and construction crews prior to ground disturbance. SCE shall provide to the CPUC and FS a list of construction personnel who have completed training prior to the start of construction, and this list shall be updated by SCE as required when new personnel start work. No construction worker may work in the field for more than 5 days without participating in the WEAP.

B-1c **Treat cut tree stumps with Sporax.** All stumps of trees (conifers and hardwoods) 3 inches DBH or greater resulting from activities associated with construction of the Project shall be treated with Sporax according to product directions to prevent the spread of annosus root disease. Only licensed applicators shall apply Sporax. Sporax shall not be used during rain events unless otherwise approved by the CPUC/FS/USACE.

B-2 **Implement RCA Treatment Plan.** SCE shall not construct or modify any structure, culvert, or bridge or modify any habitat without the appropriate permits from regulatory agencies. SCE shall not construct or modify any structure, culvert, or bridge or modify any habitat on NFS lands in Riparian Conservation Areas (RCAs) without the authorization of the FS. Vegetation removal or road construction shall not occur in RCAs during the breeding season for nesting birds (February 1-August 15) unless otherwise approved by the FS. SCE shall prepare and implement a FS RCA Treatment Plan for the Project. This Plan shall include the specific activities that will occur at each of the RCA points crossed by the Project including the amount and type of vegetation to be cleared, the type of road crossing or improvement allowed for wet and dry crossings, and the methods that would be employed to reduce the effects of the Project on water quality. The Plan shall include timing restrictions for vehicle or equipment passage, restrictions on what activities may occur such as grading, vegetation removal or tree trimming, monitoring requirements, seasonal restrictions, and restoration requirements. This Plan shall be submitted to the FS for approval prior to construction or the grading of any access road. The Plan shall also be submitted to the CPUC for review.

B-3a **Prepare and implement a Weed Control Plan.** SCE shall prepare and implement a comprehensive, adaptive Weed Control Plan on NFS lands for pre-construction and construction invasive weed abatement. The long term Weed Control Plan, including monitoring and eradication, will be defined as part of the 50 year Operations and Maintenance Permit. On the ROW easement lands administered by the FS, the Weed Control Plan shall incorporate all appropriate and legal agency-stipulated regulations. The Weed Control Plan shall be submitted to

the FS for final authorization of weed control methods, practices, and timing prior to implementation of the Weed Control Plan on public lands. ROW easements located on private lands shall include adaptive provisions such as wheel and equipment washing for the implementation of the Weed Control Plan. The Weed Control Plan shall include the following:

- A pre-construction weed inventory shall be conducted by surveying all areas subject to ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new or improved access and spur roads. Weed populations that: (1) are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2006); and (2) aid and promote the spread of wildfires (such as cheatgrass, Saharan mustard, and medusa head); and (3) are considered by the FS as species of priority (for NFS lands only) shall be mapped and described according to density and area covered. In areas subject to ground disturbance, weed infestations shall be treated prior to construction according to control methods and practices for invasive weed populations designed in consultation with the FS. The Weed Control Plan shall be updated and utilized for eradication and monitoring post construction.
- Weed control treatments shall include all legally permitted herbicide, manual, and mechanical methods applied with the authorization of the FS. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor (PCA), where concurrence has been provided by the CPUC/FS, and implemented by a Licensed Qualified Applicator. Herbicides shall not be applied during or within 72 hours of a scheduled rain event. Herbicides shall not be used within Riparian Conservation Areas (RCAs) on the ANF without approval of the FS. In riparian areas only water-safe herbicides shall be used. Herbicides shall not be applied when wind velocities exceed 6 mph. Where manual and/or mechanical methods are used, disposal of the plant debris will follow the regulations set by the FS. The timing of the weed control treatment shall be determined for each plant species in consultation with the FS (on NFS lands) with the goal of controlling populations before they start producing seeds.

For the preconstruction and construction of the Project, measures to control the introduction and spread of noxious weeds in the Project work area shall be taken as follows.

- On the ANF, from the time construction begins until ten years after construction is complete, surveying for new invasive weed populations and the monitoring of identified and treated populations shall be required at all sites impacted by construction (tower pads, staging areas, landing zones, etc.), including access/spur roads disturbed during the Project. Surveying and monitoring for weed infestations shall occur annually for years one to five and bi-annually for years six to ten. Treatment of all identified weed populations shall occur at a minimum of once annually. When no new seedlings or resprouts are observed at treated sites for three consecutive, normal rainfall years, the weed population can be considered eradicated and weed control efforts may cease for that impact site
- During Project preconstruction and construction, all seeds and straw materials shall be weed-free rice straw, and all gravel and fill material shall be certified weed free by the county Agriculture Commissioners' Offices. Any deviation from this will be approved by a FS botanist. All plant materials used during restoration shall be native, certified weed-free, and approved by the CPUC and FS.
- During Project preconstruction and construction, vehicles and all equipment shall be washed (including wheels, undercarriages, and bumpers) before and after entering FS identified areas. On non-NFS lands vehicles and equipment shall be washed prior to commencing work in off road areas. Vehicles shall be cleaned at existing construction yards or legally operating car washes. SCE shall document that all vehicles have been

washed prior to commencing project work. In addition, tools such as chainsaws, hand clippers, pruners, etc. shall be washed before and after entering all Project work areas. All washing shall take place where rinse water is collected and disposed of in either a sanitary sewer or landfill, unless otherwise approved by the FS. A written daily log shall be kept for all vehicle/equipment/tool washing that states the date, time, location, type of equipment washed, methods used, and staff present. The log shall include the signature of a responsible staff member. Logs shall be available to the CPUC and FS for inspection at any time and shall be submitted to the CPUC and FS on a monthly basis.

- During Project operation and maintenance activities, clear and dispose of weeds in assembly yards, helicopter landing areas, tower pads, spur roads, staging areas, and any other disturbance areas in a FS-approved method.

B-3b **Remove weed seed sources from construction access routes.** Prior to construction, SCE shall initiate invasive species eradication identified in the following Table. These populations were identified as small and isolated but having the potential to spread aggressively during construction. Post construction, these isolated populations will be included and treated according to the restoration plan. Per the FSM 2080 BMP guideline, SCE shall also remove or reduce sources of weed seed along the travel routes associated with Project construction identified in Figures A-2 through A-4 of Appendix A of the Biological Specialist Report (Aspen, 2008) to prevent the introduction or control the spread of noxious weeds by mowing or other control methods to substantially reduce seed production in these infestations during Project construction. Following Project approval and during the time of year when weed species can be observed and identified, SCE shall identify, using a qualified plant ecologist, any other weed seed sources that could contribute to Project-related weed spread on the ANF. The following weed populations, and any other target infestations identified by Project surveys, should be controlled prior to construction. SCE shall initiate eradication of the following weed populations and any other isolated, target infestations discovered during pre-construction surveys along construction routes.

Weed Populations Along Construction Routes*	
ANF Road Location	**Noxious Weeds Identified**
4N41	Isolated patch of Spanish broom
3N20	Isolated patches of Spanish broom, Scotch broom, and rockrose
3N23	Giant reed population in creek adjacent to road
2N23	Scattered Spanish broom infestations of a range of population sizes and densities. Some of the large populations along these routes observed during project surveys had been recently brushed for weed control by SCE contractors, but these populations should be rechecked and control efforts reapplied as necessary. Also isolated patches of tree tobacco, rockrose, horehound, and tocalote.
2N24	Scattered, isolated patches of Spanish broom and rockrose
2N25.2	Scattered, isolated patches of Spanish broom, rosemary, rockrose, and horehound
2N30.1	One isolated patch of Spanish broom
2N30.2	Scattered Spanish broom, bull thistle, tree of heaven, black locust, tocalote, rockrose, eupatory, horehound, smilo grass, and tree tobacco infestations of a range of population sizes and densities.
3N27 north of Big Tujunga Creek to Mt. Gleason Rd	Scattered, isolated patches of Spanish broom
2N45	Moderate patch of giant reed and tree of heaven
2N65.1	Moderate infestation of tree spurge
2N65.2	Moderate infestation of Spanish broom and thoroughwort
2N66	Moderate patch of Spanish broom and tree of heaven
2N75	Moderate patch of Spanish broom
2N79	Isolated patch of Spanish broom
1N36	Scattered Spanish broom, bull thistle, tree of heaven, black locust, tocalote, rockrose, Canadian thistle, hairy vetch, smilo grass, and tree tobacco infestations of a range of population sizes and densities.
Road west out of Shortcut Station	Isolated patches of Spanish broom

Weed Populations Along Construction Routes*	
ANF Road Location	**Noxious Weeds Identified**
*Specific locations are found in Figures A-2 through A-4 of Appendix A of the Biological Specialist Report Noxious Weed Assessment. [Aspen, 2008]	

B-3c **Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads.** Prior to construction and during each year of use for construction at all assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads within the ANF, weed infested areas should be mowed and/or treated as appropriate for the individual weed species under the guidance of a qualified plant ecologist or restoration ecologist, where concurrence on the ecologist has been provided by the FS. Unless otherwise authorized by the FS, weed control efforts in these areas shall be timed annually to reduce shortpod mustard, tocalote, and other noxious weed seed production, by mowing or weed-whacking infestations when flowering has just started, but before seeds have been produced. All plant debris shall be disposed of at a FS/CPUC-approved location. Weed control efforts shall commence in early spring (February – March), as indicated annually by a qualified plant ecologist or restoration ecologist in coordination with a FS botanist or Forest Weed Specialist.

B-5 **Conduct pre-construction surveys and monitoring for breeding birds.** SCE shall conduct pre-construction surveys for nesting birds if construction and removal activities are scheduled to occur during the breeding season. Surveys shall be conducted in areas within 500 feet of tower sites, laydown/staging areas, substation sites, and access/spur road locations. Surveys for birds shall be conducted for all areas from February 1 to August 15. The required survey dates may be modified based on local conditions (i.e., high altitude locations) with the approval of the CPUC, California Department of Fish and Game (CDFG), USACE, and/or FS. SCE shall be responsible for designating qualified biologists who can conduct pre-construction surveys and monitoring for breeding birds. The resume of the proposed biologists will be provided to the CPUC, USACE, and FS for concurrence prior to ground disturbance. On NFS lands, the FS shall apply the FS Land Management Plan Standard S18 (Part 3 of the Land Management Plan), which states "Protect known active and inactive raptor nest areas. Extent of protection will be based on proposed management activities, human activities existing at the onset of nesting initiation, species, topography, vegetative cover, and other factors. When appropriate, a no-disturbance buffer around active nest sites will be required from nest-site selection to fledging." On both NFS and non-NFS lands, if breeding birds with active nests are found, a biological monitor shall establish a 300-foot buffer around the nest for ground-based construction activities and a one-mile buffer for helicopter use if helicopters are flying below 300 feet, and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. If nesting bald or golden eagles are identified a 660-foot no activity buffer will be implemented. The 300-foot (660-foot eagle and one-mile helicopter) buffer may be adjusted to reflect existing conditions including ambient noise, topography, and disturbance with the approval of the U.S. Fish and Wildlife Service (FWS), CPUC, USACE, CDFG, or FS, as appropriate. On NFS lands, the FS shall have the authority to define/redefine such buffers. The biological monitors shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The biological monitors shall be responsible for documenting the results of the surveys and the ongoing monitoring and will provide a copy of the monitoring reports for impact areas to the respective agencies (e.g., On NFS lands documentation will be provided to the Forest Biologist). If for any reason a bird nest must be removed during the nesting season, SCE shall provide written documentation providing concurrence from the FWS and CDFG authorizing the nest relocation. On NFS lands, this will include coordination and written approval from the FS. On USACE lands, this will include

coordination and written approval by the USACE. SCE shall provide a written report documenting the relocation efforts. The report shall include what actions were taken to avoid moving the nest, the location of the nest, what species is being relocated, the number and condition of the eggs taken from the nest, the location of where the eggs are incubated, the survival rate, the location of the nests where the chicks are relocated, and whether the birds were accepted by the adopted parent.

B-7 **Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.** SCE shall conduct pre-construction surveys for State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants in all areas subject to ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access roads. The surveys shall be conducted during the appropriate blooming period(s) by a qualified plant ecologist/biologist according to protocols established by the FWS, CDFG, FS, and California Native Plant Society (CNPS). The resume of the proposed biologists will be provided to the CPUC and FS for concurrence prior to ground disturbance. All listed plant species found shall be marked and avoided. If a federally listed plant species cannot be avoided on private land, consultation with FWS will occur.

Prior to site grading, any populations of listed plant species identified during the surveys shall be protected by a buffer zone. The buffer zone shall be established around these areas and shall be of sufficient size to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and dust. The size of the buffer depends upon the proposed use of the immediately adjacent lands, and includes consideration of the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, edaphic physical and chemical characteristics) that are identified by a qualified plant ecologist and/or Forest botanist. At minimum, the buffer shrub species shall be equal to twice the drip line (i.e., two times the distance from the trunk to the canopy edge) in order to protect and preserve the root systems of the plant. The buffer for herbaceous species shall be, at minimum, 50 feet from the perimeter of the population or the individual. A smaller buffer may be established, provided there are adequate measures in place to avoid the take of the species, with the approval of the FWS, CDFG, FS, USACE and CPUC. If impacts to listed plants are determined to be unavoidable, the FWS shall be consulted for authorization, through the context of a Biological Opinion. Additional mitigation measures to protect or restore listed plant species or their habitat may be required by the FWS before impacts are authorized, whichever is appropriate.

B-8a **Conduct protocol surveys for California red-legged frogs and implement avoidance measures.** SCE shall conduct Fish and Wildlife Service (FWS)-approved protocol surveys for California red-legged frogs if suitable habitat is present near the proposed construction sites at the Amargosa Creek, Aliso Canyon (Segment 11), Monte Cristo Creek, Alder Creek, Big Tujunga Creek (Segment 6), and West Fork San Gabriel River within the Central Region. If surveys have been conducted to protocol within two years of start of construction and no red-legged frogs were identified, surveys would not need to be repeated prior to start of construction. Surveys will continue at least every two years until construction is complete in the identified potential habitat. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence prior to conducting the surveys.

- Prior to the onset of construction activities, SCE shall provide the following information to all personnel who will be present within work areas or adjacent to the project area:
    - A detailed description of the red-legged frog including color photographs;

- The protection the red-legged frog receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;
- The protective measures being implemented to conserve red-legged frogs and other species during construction activities associated with the Project; and
- A point of contact if red-legged frogs are observed.

- All trash that may attract predators of the red-legged frogs will be removed from work sites or completely secured at the end of each work day. At the Project crossing in Aliso Canyon, and anywhere California red-legged frogs are detected in or adjacent to the Project, the following shall apply:
  - A full-time monitor shall be present at the access road crossing when in use near the newly discovered population of California red-legged frog in Aliso Canyon, while water is present. Use of the road will be restricted to daylight hours, except during an emergency, in order to avoid nighttime activities when red-legged frogs may be present on the access road. Traffic speed shall be maintained at 15 mph or less in the work area. Use of this roadway during rain events shall not occur during the activity period for California red-legged frogs.
  - Between 1 November and 31 March, no work will be authorized within 0.5 mile of occupied habitat and no vehicular crossings at wet fords of those channels will be authorized without an authorized monitor. The 0.5-mile buffer distance may be reduced based on the topography of the site with the approval of the FS and CPUC. Use of paved public access roads will not be restricted (i.e., Aliso Canyon Road).
  - Between April 1 to 31 October, no access road work will be authorized within 500 feet of occupied habitat and no vehicular crossings at wet fords of those channels will be authorized without an authorized monitor. Use of paved public access roads will not be restricted (i.e., Aliso Canyon Road).
  - If present, SCE shall monitor all related construction activities and develop and implement a monitoring plan that includes the following measures in consultation with the FWS and FS.
  - Prior to the onset of any construction activities, SCE shall meet on-site with the CPUC/FS-approved biologist (authorized biologist). The authorized biologist shall hold a current red-legged frog permit from FWS. SCE shall provide information on the general location of construction activities within habitat of the red-legged frog and the actions taken to reduce impacts to this species. Because red-legged frogs may occur in various locations during different seasons of the year, SCE, FS, and authorized biologists will, at this preliminary meeting, determine the seasons when specific construction activities would have the least adverse effect on red-legged frogs.
  - Where construction can occur in habitat where red-legged frogs are widely distributed, work areas will be fenced in a manner that prevents equipment and vehicles from straying from the designated work area into adjacent habitat. The authorized biologist will assist in determining the boundaries of the area to be fenced in consultation with the FWS/CDFG/FS/CPUC. All workers will be advised that equipment and vehicles must remain within the fenced work areas.
  - The authorized biologist will direct the installation of the fence and conduct a minimum of three nocturnal surveys to move any red-legged frogs from within the fenced area to suitable habitat outside of the fence. If red-legged frogs are observed on the final survey or during subsequent checks, the authorized biologist will conduct additional nocturnal surveys if he or she determines that they are necessary in concurrence with the FWS/CDFG/FS/CPUC.

- Fencing to exclude red-legged frogs will be at least 24 inches in height.
- Construction activities that may occur immediately adjacent to breeding pools or other areas where large numbers of red-legged frogs may congregate will be conducted during times of the year (winter) when individuals have dispersed from these areas or the species is dormant, unless otherwise authorized by CPUC, FS, and FWS. The authorized biologist will assist SCE in scheduling its work activities accordingly.
- If red-legged frogs are found within an area that has been fenced to exclude red-legged frogs, activities will cease until the authorized biologist moves the red-legged frogs.
- If red-legged frogs are found in a construction area where fencing was deemed unnecessary, work will cease until the authorized biologist moves the red-legged frogs. The authorized biologist in consultation with FWS/CDFG/ FS/CPUC will then determine whether additional surveys or fencing are needed. Work may resume while this determination is being made, if deemed appropriate by the authorized biologist.
- Any red-legged frogs found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.
- The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
- SCE shall restrict work to daylight hours, except during an emergency, in order to avoid nighttime activities when red-legged frogs may be present on the access road. Traffic speed should be maintained at 15 mph or less in the work area.
- A qualified biologist must permanently remove, from within the Project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible and ensure that activities are in compliance with the California Fish and Game Code.
- No stockpiles of materials will occur in areas occupied by California red-legged frogs.
- To ensure that diseases are not conveyed between work sites by the authorized biologist or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.
- Any spills of any fluids that may be hazardous to aquatic fauna (gasoline, hydraulic fluid, motor oil, etc.) in areas that may contain California red-legged or mountain yellow-legged frogs will be reported to the FS, FWS, and CPUC within one hour.

B-8b **Conduct biological monitoring.** SCE shall provide a qualified biologist with demonstrated expertise with the listed wildlife species likely to occur in the Project area. This person(s) shall monitor all construction activities daily within suitable habitat for listed or sensitive wildlife. The resumes of the proposed biologists will be provided to the CPUC, USACE, and FS for concurrence prior to the onset of ground-disturbing activities.

B-9 **Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas.** In areas known to support arroyo toads (Lynx Gulch, Monte Cristo Creek, and Alder Creek) the following avoidance measures shall be implemented.

- SCE shall avoid ground disturbing activities (i.e. grading, stream crossing upgrades, parking) along access roads within the one mile buffer for arroyo toads during the activity period for arroyo toads (March-November). This date and buffer may be modified based on the existing temperature regime and habitat conditions with FS and FWS approval.

- SCE shall limit use of the access roads in this area within the one-mile arroyo toad buffer area to daylight hours only during the activity period for arroyo toads (generally March-November), unless otherwise approved by the FS (on NFS land), FWS, and/or the CPUC (on private land). Use of these roadways during rain events shall not occur during the activity period for arroyo toads. Vehicle speeds shall be limited to 15 MPH and no parking or loitering shall occur along the access roads.
- SCE shall retain a qualified biologist with demonstrated expertise with arroyo toads to monitor all construction activities full time in occupied arroyo toad habitat. The monitor shall inspect the roadway, all Arizona crossings, and work sites throughout the day and log the time and weather conditions in the area. If adult or juvenile arroyo toads are found on the roadway, vehicle access shall be restricted until the animal has moved off the road or is relocated by a permitted arroyo toad biologist in accordance with the Biological Opinion.

SCE shall conduct Fish and Wildlife Service-approved protocol surveys for arroyo toad at the following locations if suitable habitat is present near the proposed construction sites: Kentucky Wash, Aliso Canyon, and Big Tujunga Creek (Segment 6/11) within two years to the start of construction. If arroyo toads are detected, further surveys within the area will not be required and the avoidance measures detailed below will be followed. If no arroyo toads are detected, habitat assessments will be conducted every year until construction is completed. If the habitat assessment determines that suitable habitat exists, protocol surveys shall be conducted.

- Prior to the onset of construction activities, SCE shall provide all personnel who will be present on work areas within or adjacent to the Project area the following information:
  a. A detailed description of the arroyo toad including color photographs;
  b. The protection the arroyo toad receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;
  c. The protective measures being implemented to conserve the arroyo toad and other species during construction activities associated with the Project; and
  d. A point of contact if arroyo toads are observed.
- For all areas in which this species has been documented SCE shall develop and implement a monitoring plan that includes the following measures in consultation with the FWS and Forest Service.
  - SCE shall retain a qualified biologist with demonstrated expertise with arroyo toads to monitor all construction activities in occupied arroyo toad habitat and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within habitat that supports populations of arroyo toad
  - All trash that may attract predators of the arroyo toad will be removed from work sites or completely secured at the end of each work day. Prior to the onset of any construction activities, SCE shall meet on-site with staff from the FS and the authorized biologist. SCE shall provide information on the general location of construction activities within habitat of the arroyo toad and the actions taken to reduce impacts to this species. Because arroyo toads may occur in various locations during different seasons of the year, SCE, FS, and authorized biologists will, at this preliminary meeting, determine the seasons when specific construction activities would have the least adverse effect on arroyo toads.

- Any arroyo toads found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.
- The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
- To ensure that diseases are not conveyed between work sites by the authorized biologist or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.
- SCE shall restrict work to daylight hours, except during an emergency, or unless otherwise authorized by the FS (on NFS land) or the CPUC (on private land) in order to avoid nighttime activities when arroyo toads may be present on the access roads. Traffic speed shall be maintained at 15 mph or less in the work area.
- A qualified biologist must permanently remove, from within the Project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible and ensure that activities are in compliance with the California Fish and Game Code.
- No stockpiles of materials will occur in areas occupied by arroyo toads.
- Any spills of any fluids that may be hazardous to aquatic fauna (gasoline, hydraulic fluid, motor oil, etc.) in areas that may contain arroyo toads will be reported to the FS, FWS, and CPUC within one hour.

B-10 **Conduct presence or absence surveys for desert tortoise, preserve habitat, and implement avoidance measures.** SCE shall contract with a Fish and Wildlife (FWS)-authorized biologist to conduct FWS protocol-surveys for desert tortoise in the vicinity of the proposed Windhub Substation site at the northern terminus of Segment 10, where historic tortoise burrows were documented and habitat is suitable. The resumes of the FWS-authorized biologists will be provided to the CPUC for concurrence prior to conducting the surveys. This biologist will be referred to as the "authorized biologist" hereafter. Additionally, a qualified biologist shall conduct focused clearance surveys for desert tortoise prior to construction activities within Segment 10 and Segment 4 between the Cottonwind and Whirlwind substations. Clearance surveys shall be conducted 100 m into agricultural areas that are adjacent to suitable habitat. Clearance surveys shall follow the FWS's desert tortoise survey protocol.

To mitigate potential permanent impacts to occupied desert tortoise habitat from Project construction, SCE will acquire habitat occupied by desert tortoises. Disturbance occurring along Segment 10 and along Segment 4 between the Cottonwind and Whirlwind substations shall be mitigated through acquisition of occupied habitat at a ratio of 3:1 (acres of habitat acquired:acres of land permanently disturbed). Mitigation acquisition shall occur at a FWS- and CDFG-approved location and shall be coordinated through a FWS- and CDFG-approved entity. SCE shall enter into a binding legal agreement regarding the preservation of off-site lands describing the terms of the acquisition, enhancement, and management of those lands. Fee title acquisition of habitat lands or a conservation easement over these lands will be transferred to an entity approved by FWS and CDFG, along with funding for enhancement of the land and an endowment for permanent management of the lands. SCE will provide verification to the CPUC that FWS- and CDFG-approved lands have been acquired.

SCE shall develop and implement a mitigation and monitoring plan that includes the following measures in consultation with the FWS and CDFG.

- Prior to the onset of construction activities, SCE shall provide all personnel who will be present on work areas within or adjacent to the Project area the following information:
  a. A detailed description of the desert tortoise including color photographs;
  b. The protection the desert tortoise receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;
  c. The protective measures being implemented to conserve the desert tortoise and other species during construction activities associated with the Project; and
  d. A point of contact if desert tortoises are observed.
- All trash that may attract predators of desert tortoises will be removed from work sites or completely secured at the end of each work day.
- In construction areas in occupied desert tortoise areas, work and staging areas will be fenced with approved desert tortoise fencing in a manner that prevents equipment and vehicles from straying from the designated work area into adjacent habitat. The authorized biologist will assist in determining the boundaries of the area to be fenced in consultation with the FWS/CDFG/CPUC. All workers will be advised that equipment and vehicles must remain within the fenced work areas. Installation of the fencing and any necessary surveys will be directed and/or conducted by the authorized biologist in concurrence with the FWS/CDFG/CPUC.
  - If desert tortoises are found within an area that has been fenced to exclude the species, activities will cease until the authorized biologist moves the desert tortoises within 500 m of their original location
  - If desert tortoises are found in a construction area where fencing was deemed unnecessary, work will cease until the authorized biologist moves the individual(s) within 500 m of their original location. The authorized biologist in consultation with FWS/CDFG/CPUC will then determine whether additional surveys or fencing are needed. Work may resume while this determination is being made, if deemed appropriate by the authorized biologist.
  - Any desert tortoises found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat within 500 m of their original location. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area if the area is not fenced. If the area is fenced, only monitoring will need to be conducted.
  - SCE shall follow the tortoise Handling Guidelines at all times if handling tortoises is required.
  - The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.

SCE shall restrict work to daylight hours, except during an emergency, in order to avoid nighttime activities when desert tortoise may be present on the access road. Traffic speed shall be maintained at 15 mph or less in the work area.

B-12 **Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms.** On or near the West Fork Cogswell road, SCE shall pre-stage a complete Hazardous Material Spill kit(s) capable of containing the largest potential vehicle spill of gasoline, diesel, or other hazardous materials. The kit(s) shall be located and maintained in areas accessible to crews in the event a bridge or other road blockage has occurred. Contents of the kit(s) shall be approved by the FS. A biological monitor with knowledge of the special-status fishes known to occur in the

area shall inspect the roadway a minimum of three times a day from October 1 to April 30 and one time a day from May 1 through September 30 (unless otherwise approved by the FS) during construction to inspect for leaks, spills, or other debris that may enter the San Gabriel River. Spills on the roadway will be logged and reported to the FS and CPUC monitor weekly and cleaned up immediately. Any spills along this road will be reported to the FS and CPUC within one hour.

No loitering, maintenance, refueling, or equipment staging shall occur on the West Fork Cogswell road. Prior to vehicle access, metal plates, bridges, or other FS-approved structures shall be placed above all wet crossings, if deemed necessary by the FWS or the FS.

Prior to any work in the San Gabriel River, Big Tujunga River, or their tributaries where flowing or ponded water is present SCE shall conduct surveys for fish and other special-status aquatic organisms. The species noted in the project area shall be reported to the FS. No work shall be conducted in the flowing portion of the stream and water shall be diverted around the work area in a manner that does not restrict the movement of aquatic organisms unless authorized by the FS. Block nets or other barriers may be required if deemed necessary by the FWS or the FS, and if fish or other special-status species are present. Block nets will not be used in areas supporting Santa Ana suckers. All activities that occur within ponded or flowing water shall be coordinated with the FS on NFS lands. Quarterly for duration of construction work in the San Gabriel and Big Tujunga Rivers, SCE shall prepare a report documenting the type and number of species located and any actions taken to relocate or exclude the species. This shall be reported to the FS and CPUC no later than 30 days following the completion of work at the San Gabriel or Big Tujunga Rivers.

If Santa Ana suckers occur in portions of the creek where construction activities are scheduled to occur, SCE shall retain a qualified biologist with a FWS permit for the Santa Ana sucker to monitor all construction activities in occupied Santa Ana sucker habitat and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.

B-14 **Monitor construction in condor habitat and remove trash and micro-trash from the work area daily.** SCE shall retain a qualified biologist with demonstrated knowledge of California condor identification to monitor all construction activities within the Project area and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologist(s) will be provided to the CPUC and FS for concurrence. This biologist(s) will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within known condor-occupied areas. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed. If condors are observed in helicopter construction areas, SCE shall avoid further helicopter use until the animals have left the area. The authorized biologist will have radio contact with the project foreman, who will be in radio contact with the helicopter pilot. The biologist will provide information to SCE to avoid conflicts with condors. All condor sightings in the Project area will be reported to the FWS and FS (on NFS lands). SCE will coordinate with FWS on the construction schedule and helicopter work areas to determine if any condors have been tracked or observed in the vicinity of the Project area. If condors are observed in helicopter construction areas, then SCE shall avoid further helicopter use until the animals have left the area and the FWS will be notified immediately. Should condors be found roosting within 0.5 miles of the construction area, no construction activity shall occur between 1 hour before sunset to 1 hour after sunrise, or until the condors leave the area. Should condors be found nesting within 1.5 miles of the construction area, no construction activity will occur until further authorization from the FWS and FS on NFS lands.

Microtrash. All trash is required to be disposed of as written in the Proper Disposal of Construction Waste Plan for the Project. Additional language has been added to this Plan to address the disposal of microtrash. Workers will be trained on the issue of microtrash – what it is, its potential effects to California condors, and how to avoid the deposition of microtrash. In addition, daily sweeps of the work area will occur to collect and remove trash in locations with the potential for California condors to occur.

Worker Education. SCE will develop a flier that will be distributed to all workers on the project concerning information on the California condor. Information to be included consists of the following: species description with photos and/or drawings indicating how to identify the California condor and how to distinguish condors from turkey vultures and golden eagles; protective status and penalties for violation of the ESA; avoidance measures being implemented on the Project; and contact information for communicating condor sightings.

Reporting. All California condor sightings in the Project area will be reported directly to the FWS, FS, and CPUC. Prior to the commencement of helicopter activity, SCE will coordinate with a FWS condor biologist to determine if any condors have been tracked or observed in the vicinity of the Project area.

B-15 **Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat.** If construction activities occur during the breeding season at the Whittier Narrows Recreation Area, Whittier Narrows Nature Center, Puente Hills Landfill Native Habitat Preservation Authority lands, and/or the Rio Hondo, or other areas including the ANF that have the potential to support listed riparian species, a qualified ornithologist shall conduct protocol surveys of the Project and adjacent areas within 500 feet. Fish and Wildlife Service (FWS) protocol surveys will be conducted for southwestern willow flycatcher, and least Bell's vireo. In known occupied habitat for listed riparian birds, SCE shall only conduct focused surveys of the Project and adjacent areas within 500 feet. The surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season.

Protocol or focused surveys, as appropriate, should be conducted, within one year of start of construction and will continue annually until completion of construction activities. However, on NFS lands, annual surveys in suitable habitat may be required during construction. These surveys may be modified through the coordination with the FWS, CDFG, FS, USACE, and the CPUC based on the condition of habitat, the observation of the species, or avoidance of riparian areas during the breeding season.

If a territory or nest is confirmed in a previously unoccupied area, the FWS and CDFG shall be notified immediately. On NFS lands, USACE lands, or State Park (under Alternative 4) lands, these agencies would be notified immediately. In coordination with the FWS and CDFG, a 500-foot disturbance-free buffer shall be established and demarcated by fencing or flagging. This buffer may be adjusted provided noise levels do not exceed 60 dB(A)hourly Leq at the edge of the nest site as determined by a qualified biologist in coordination with a qualified acoustician. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the construction activities are disturbing nesting activities, the biologist shall have the authority to halt the construction and shall devise methods to reduce the noise and/or disturbance in the vicinity. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. If noise levels still exceed 60 dB(A) Leq hourly at the edge of nesting territories and/or a no-construction buffer cannot be maintained, construction shall be deferred in that area until the nestlings have fledged. All active nests shall be monitored on a weekly basis until the nestlings

fledge. No construction or vehicle traffic shall occur within this buffer during the breeding season for these species.

B-16 Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures. SCE shall conduct protocol surveys for coastal California gnatcatchers in areas supporting coastal sage scrub habitat that may be affected by the Project. In known occupied habitat for the California gnatcatcher, SCE shall only conduct focused surveys for coastal California gnatcatchers to determine the locations of nests and territories. Survey areas shall include a 500-foot buffer around Project disturbance areas.

If a territory or nest is confirmed, the FWS shall be notified immediately. In coordination with the FWS a 300-foot disturbance-free buffer shall be established and demarcated by fencing or flagging. This buffer may be adjusted provided noise levels do not exceed 60 dB(A)hourly Leq at the edge of the nest site as determined by a qualified biologist in coordination with a qualified acoustician. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the construction activities are disturbing nesting activities, the biologist shall have the authority to halt the construction and shall devise methods to reduce the noise and/or disturbance in the vicinity. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. If noise levels still exceed 60 dB(A) Leq hourly at the edge of nesting territories and/or a no-construction buffer cannot be maintained, construction shall be deferred in that area until the nestlings have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge. No Project activities may occur in these areas unless otherwise authorized by FWS. SCE shall obtain incidental take authorization from the FWS prior to further activities.

Protocol or focused surveys, as appropriate, shall be conducted, at a minimum, within one year of start of construction and can stop at commencement of construction activities. These surveys may be modified through the coordination with the FS on NFS lands, USACE on USACE lands, and the CPUC based on the condition of habitat, the observation of the species, or avoidance of nesting areas during the breeding season. Non-protocol nesting bird surveys for California gnatcatcher shall also occur in the Aliso Canyon in chaparral communities. This area shall also require a qualified gnatcatcher biologist to be present during any construction activities conducted during the breeding season.

Construction activities in occupied gnatcatcher habitat will be monitored by a full-time qualified biologist. The monitoring shall be of a sufficient intensity to ensure that the biologist could detect the presence of a bird in the construction area. At a minimum one full-time monitor shall be present for every two miles of active construction within occupied habitat.

SCE shall retain a FWS-permitted biologist to monitor construction activities within 100 feet of an active California gnatcatcher nests in the Montebello Hills area only and assist SCE in the implementation of the monitoring program. In the Montebello Hills, grading and vegetation management, including activities conducted during Project operations and maintenance, shall be conducted outside of the breeding season (March – August) unless otherwise authorized by the FWS. A 300-foot buffer is required for all other areas. A biologist with applicable avian experience with the California gnatcatcher will monitor all construction activities within 300 feet of occupied California gnatcatcher habitat. The resumes of the permitted biologists will be provided to the CPUC for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.

B-17 **Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher.** To mitigate effects from Project construction, SCE shall acquire habitat occupied by the coastal California gnatcatcher and/or restore unoccupied coastal sage scrub. Mitigation acquisition shall occur at a 3:1 ratio for permanent effects unless otherwise approved by the FWS upon consultation. Temporary impacts will be mitigated at a 1:1 ratio on site. For lands located within the Montebello Hills HCP a 1:1 ratio for permanent effects will be implemented unless otherwise approved by the FWS. SCE shall enter into a binding legal agreement regarding the preservation of off-site lands describing the terms of the acquisition, enhancement, and management of those lands. Management of coastal California gnatcatcher mitigation areas will be necessary to maintain habitat suitability over time. Activities that need to be addressed in the management plan include disturbances that reduce shrub cover, such as frequent fire, mechanical disruption, livestock grazing, off-highway vehicle use, and military training activities. Fee title acquisition of these habitat lands or a conservation easement shall be transferred to an entity approved by the FWS and the CPUC, along with funding for enhancement of the land and an endowment for management of the land in perpetuity.

B-18a **Conduct pre-construction surveys for Swainson's hawks.** To assure that nesting Swainson's hawks are not disturbed by construction activities, a qualified ornithologist shall conduct pre-construction surveys within one mile of the Project in regions with suitable nesting habitat for Swainson's hawks. The survey periods follow a specified schedule: Period I occurs from 1 January to 20 March, Period II occurs from 20 March to 5 April, Period III occurs from 5 April to 20 April, Period IV occurs from 21 April to 10 June, and Period V occurs from June 10 to July 30. Surveys are not recommended during Period IV because identification is difficult, as the adults tend to remain within the nest for longer periods of time. No fewer than three surveys per period in at least two survey periods shall be completed immediately prior to the start of Project construction. If a nest site is found, consultation with CDFG shall be required to ensure Project construction will not result in nest disturbance. CDFG recommends that no new disturbances or other Project-related activities that may cause nest abandonment or forced fledging be initiated within 0.25 mile of an active nest between 1 March and 15 September, or until 15 August if a Management Authorization is obtained for the Project from the CDFG (CDFG, 1994). These buffer zones may be adjusted as appropriate in consultation with a qualified ornithologist and CDFG.

B-18b **Removal of nest trees for Swainson's hawks.** Nest trees for Swainson's hawks along the P**roject shall not be removed unless avoidance measures are determined to be infeasible.** If a nest tree for a Swainson's hawk must be removed, a Management Authorization (including conditions to offset the loss of the nest tree) must be obtained from the CDFG. The Management Authorization will specify the tree removal period, generally between 1 October and 1 February. If construction or other Project-related activities that may cause nest abandonment by a Swainson's hawk or forced fledging are necessary within the specified buffer zone, monitoring of the nest site (funded by SCE) by a qualified biologist shall be required to determine if the nest is abandoned. If the nest is abandoned and if the nestlings are still alive, SCE shall fund the recovery and hacking (controlled release of captive reared young) of the nestling(s).

B-19 **Compensate for loss of foraging habitat for Swainson's hawks.** Loss of foraging habitat for Swainson's hawks shall be mitigated by providing Habitat Management (HM) lands as described in the CDFG's Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California (CDFG, 1994) because the site is known foraging habitat for Swainson's hawks. The final acreage of HM lands to be provided on site shall depend on the distance between the Project area and the nearest active nest site (CDFG, 1994), as determined by nest surveys conducted in the spring prior to Project construction. Guidance on the acreage of HM lands to be acquired by SCE can be found in the 1994 CDFG staff report.

Management Authorization holders/Project sponsors shall provide for the long-term management of the HM lands by funding a management endowment (the interest on which shall be used for managing the HM lands).

B-22a **Conduct protocol surveys for Mohave ground squirrels.** Protocol-level surveys for Mohave ground squirrels shall be performed in the portion of the Project containing suitable habitat for Mohave ground squirrel unless further consultation with the CDFG determines the surveys are not required. A qualified biologist will perform these surveys according to CDFG's (2003b) Mohave Ground Squirrel Survey Guidelines. The resumes of the proposed biologists will be provided to the CDFG and CPUC for concurrence prior to conducting the surveys.

If at any time a Mohave ground squirrel is detected, trapping will cease. If these surveys obtain positive results for Mohave ground squirrel, or if Mohave ground squirrel presence is assumed within potential habitat, SCE shall obtain incidental take authorization from CDFG. If these surveys determine that the Mohave ground squirrel is absent, then no further action is necessary.

B-22b **Implement construction monitoring for Mohave ground squirrels.** A qualified biological monitor shall be on the site to survey for Mohave ground squirrel during initial ground-disturbing activities. The resumes of the proposed biologists will be provided to the CDFG and CPUC for concurrence prior to conducting the surveys. The name and phone number of the biological monitor shall be provided to a CDFG regional representative at least 14 days before the initiation of ground-disturbing activities. If the biological monitor observes a Mohave ground squirrel on the construction site, determines that a Mohave ground squirrel was killed by Project-related activities during construction, or observes a dead Mohave ground squirrel, a written report shall be sent to CDFG within five calendar days. The report will include the date, time of the finding or incident (if known), and location of the carcass and circumstances of its death (if known). Mohave ground squirrel remains shall be collected and frozen as soon as possible, and CDFG shall be contacted regarding ultimate disposal of the remains.

B-22c **Preserve off-site habitat for the Mohave ground squirrel.** To mitigate potential permanent impacts to occupied Mohave ground squirrel habitat from Project construction, SCE will acquire habitat occupied by Mohave ground squirrels. Guidance on Habitat Management (HM) lands to be acquired by SCE can be found in CDFG's (2003b) Mohave Ground Squirrel Survey Guidelines.

- Three acres of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of Mojave creosote bush scrub and Joshua tree woodland outside of the Habitat Conservation Area (HCA) delineated in the WMP.
- One acre of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of desert saltbush scrub that includes desert wash impacted by the Project outside of the HCA delineated in the WMP.
- One-half acre of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of desert saltbush scrub impacted by the Project outside of the HCA delineated in the WMP.
- No mitigation will occur for agricultural, California annual grassland, or barren/developed ground within the Project area north of Vincent Substation.

Mitigation acquisition shall occur at a CDFG-approved location and shall be coordinated through a CDFG-approved entity. SCE shall enter into a binding legal agreement regarding the preservation of off-site lands describing the terms of the acquisition, enhancement, and management of those lands. Fee title acquisition of habitat lands or a conservation easement over these lands will be transferred to an entity approved by CDFG and CPUC, along with funding for enhancement of the land and an endowment for permanent management of the lands.

Management of off-highway vehicles is necessary on Mohave ground squirrel mitigation areas to prevent burrow collapse, especially during the aestivation season. Mitigation areas should be relatively flat with a perennial plant cover ranging from 10 to 20 percent (Zembal and Gall, 1980) and should support several plant species necessary for Mohave ground squirrel survival, including herbaceous annuals, winterfat (*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*), creosote bush (*Larrea tridentata*), and burrobush (*Ambrosia dumosa*) (Best, 1995).

B-23 **Preserve off-site habitat/management of existing populations of special-status plants.** SCE shall conduct rare plant surveys, and implement avoidance/minimization/compensation strategies. SCE shall conduct surveys according to established and accepted protocol during the floristic period appropriate for each of the rare plant species identified with the potential to occur within the Project ROW and within 100 feet of all surface-disturbing activities. The completion of these surveys shall be coordinated with the CPUC and federal land manager. Populations of rare plants shall be flagged and mapped prior to construction. If rare plants are located during the focused surveys, then modification of the placement of structures, access roads, laydown areas, and other ground-disturbing activities would be implemented in order to avoid the plants, if feasible. A report of special-status plants observed shall be prepared and submitted to the CPUC and the federal land manager (FS and USACE). Impacts to non-listed plant species (i.e., FS Sensitive, CNPS List 1,2 and 4 species) shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through reseeding (with locally collected seed stock), or other FS, USACE, and CPUC approved methods. If Project activities will result in loss of more than 10 percent of the known individuals within an existing population of FS Sensitive, and/or special-status plant species SCE shall preserve existing off-site occupied habitat that is not already part of the public lands in perpetuity at a 2:1 mitigation ratio (habitat preserved: habitat impacted). On federal lands, this ratio may be reduced at the discretion of the federal land manager. The CPUC may reduce this ratio depending on the sensitivity of the plant on non-federal lands. The preserved habitat shall be occupied by the plant species impacted, and be of superior or similar habitat quality to the impacted areas in terms of soil features, extent of disturbance, habitat structure, and dominant species composition, as determined by a qualified plant ecologist.

All special-status plant species impacted by Project activities shall be documented in an annual report and submitted to the CPUC and federal land manager (FS and USACE). Where reseeding has occurred, SCE shall track the success of the plants during the course of the annual restoration monitoring. This information shall be submitted as part of the annual report to the CPUC and federal land manager (FS and USACE).

B-24 **Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures.** A qualified biologist shall conduct focused surveys for southwestern pond turtle in the area of Project crossings, including access and spur roads, at Amargosa Creek, Big Tujunga Creek (Segment 6), Alder Creek, Rio Hondo Substation, Whittier Narrows Recreation Area, Aliso Creek, and Tonner Creek. Since Southwestern pond turtles were observed at the San Gabriel River (Segments 6 and 7 and West Fork/Cogswell Road) and Brea Canyon during reconnaissance surveys conducted in September 2007, the species shall be assumed present at these locations. The resume of the proposed biologists will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to conducting the surveys. This biologist will be referred to as the authorized biologist hereafter. Focused surveys shall also occur on access and spur roads where road crossings could affect suitable habitat for this species. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 June. The survey schedule may be adjusted in consultation with the CPUC, FS, and/or USACE, as appropriate, to reflect the existing weather or stream conditions. If southwestern pond turtles are detected in or adjacent to the Project, nesting surveys shall be conducted.

Focused surveys for evidence of southwestern pond turtle nesting shall be conducted in, or adjacent to, the Project when suitable nesting habitat exists within 1,300 feet of occupied habitat in an area where Project-related ground disturbance will occur (i.e., tower sites, access/spur roads, wire setup sites, marshalling yards). If both of those conditions are met, a qualified biologist shall conduct focused, systematic surveys for southwestern pond turtle nesting sites. The survey area shall include all suitable nesting habitat located within 1,300 feet of occupied habitat in which Project-related ground disturbance will occur. This area may be adjusted based on the existing topographical features on a case-by-case basis with the approval of the CPUC, FS, and/or USACE, as appropriate. Surveys will entail searching for evidence of pond turtle nesting, including remnant eggshell fragments, which may be found on the ground following nest depredation.

If a southwestern pond turtle nesting area would be adversely impacted by construction activities, SCE shall avoid the nesting area. If avoidance of the nesting area is determined to be infeasible, the authorized biologist shall coordinate with CDFG, CPUC, FS (on NFS lands), and USACE (on Army Corps lands) to identify if it is possible to relocate the pond turtles. Eggs or hatchlings shall not be moved without the written authorization from the CDFG and FS (on NFS lands).

A qualified biologist with demonstrated expertise with southwestern pond turtles shall monitor construction activities where pond turtles are present or assumed present. The resume of the proposed biologist will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to the onset of ground-disturbing activities. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to, or within, habitat that supports populations of southwestern pond turtles. If the installation of fencing is deemed necessary by the authorized biologist, one clearance survey for southwestern pond turtles shall be conducted at the time of the fence installation. Clearance surveys for southwestern pond turtles shall be conducted by the authorized biologist prior to the initiation of construction each day.

B-25 **Conduct focused surveys for two-striped garter snakes and south coast garter snakes and implement monitoring, avoidance, and minimization measures.** A qualified biologist shall conduct focused surveys for two-striped garter snakes (both on and off NFS lands) and south coast garter snakes (non-NFS lands only) where suitable habitat is present and directly impacted by construction vehicle access, or maintenance. The resume of the proposed biologists will be provided to the CPUC, FS and USACE (as appropriate) for concurrence prior to conducting the surveys. This biologist will be referred to as the authorized biologist hereafter. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 September. The survey schedule may be adjusted in consultation with the CPUC, FS, and/or USACE to reflect the existing weather or stream conditions. If either species is detected in or adjacent to the Project or at any wet fords to be traversed by motorized vehicles as part of Project construction activities, the following minimization measures will be required. SCE shall retain a qualified herpetologist with demonstrated expertise with garter snakes to monitor construction activities. The resume of the proposed biologist will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to the onset of ground-disturbing activities or vehicular crossings at wet fords. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within habitat that supports populations of the two-striped garter snake and/or south coast garter snake. Clearance surveys for garter snakes shall be conducted by the authorized biologist prior to the initiation of construction each day. Any snakes found within the area of disturbance or potentially affected by the Project will be relocated to the nearest suitable habitat that will not be affected by the Project.

B-26 **Conduct focused surveys for coast range newts and implement monitoring, avoidance, and minimization measures.** A qualified biologist shall conduct focused surveys for Coast Range newt in suitable habitat on non-NFS lands, including Eaton Wash, Brea Canyon, and Tonner Creek. In addition, all tributary drainages that support habitat for this species shall be inspected if they are subject to Project disturbance. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 September. If Coast Range newts are detected in or adjacent to the Project or at any wet fords to be traversed by motorized vehicles as part of Project construction activities, no work shall be authorized within 0.5 mile of the occupied active drainage channel and no vehicular crossings at fords of those channels shall be authorized until the biologist has inspected and cleared these areas.

SCE shall retain a qualified biologist with demonstrated expertise with amphibians to monitor construction activities and assist SCE in the implementation of the monitoring program. The resume of the proposed biologist will be provided to the CPUC for concurrence prior to the onset of ground-disturbing activities or vehicular crossings at wet fords. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during ground-disturbing activities immediately adjacent to or within habitat that supports populations of Coast Range newt. Clearance surveys for Coast Range newts shall be conducted by the authorized biologist prior to the initiation of construction each day. If individuals are found within the proposed area of disturbance they will be relocated to an area that will not be affected by construction activities.

B-27 **Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna.** A qualified biologist with demonstrated expertise with special-status terrestrial herpetofauna shall monitor all construction activities and assist SCE in the implementation of the monitoring efforts. The resume of the proposed biologist will be provided to the CPUC, USACE, and FS (as appropriate) for concurrence prior to the onset of ground-disturbing activities. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during ground-disturbing activities immediately adjacent to or within habitat that supports populations of the special-status terrestrial herpetofauna. Any special-status terrestrial herpetofauna found within a Project impact area shall be salvaged by the authorized biologist and relocated to suitable habitat outside the impact area. If the installation of exclusion fencing is deemed necessary by the authorized biologist, the authorized biologist will direct the installation of the fence. Clearance surveys for special-status herpetofauna shall be conducted by the authorized biologist prior to the initiation of construction each day.

B-29 **Implement CDFG protocol for burrowing owls.** In conformance with federal and State regulations regarding the protection of raptors, a habitat assessment in accordance with CDFG protocol for burrowing owls (CBOC, 1993) shall be completed on non-NFS lands prior to the start of construction. Burrowing owl habitat within the Project area and within a 500-foot buffer zone shall be assessed ("Assessment Area"). If the habitat assessment concludes that the Assessment Area lacks suitable burrowing owl habitat, no additional action is required. However, if suitable habitat is located on the Assessment Area, all ground squirrel colonies or potential burrow locations shall be mapped at an appropriate scale, and the following mitigation measures shall be implemented:

- In conformance with federal and State regulations regarding the protection of raptors, a pre-construction survey for burrowing owls, in conformance with CDFG protocol, consisting of three site visits, shall be completed no more than 30 days prior to the start of construction within suitable habitat at the Project site(s) and buffer zone(s).
- Occupied burrows shall not be disturbed during the nesting season (1 February through 31 August) unless a qualified biologist approved by CDFG verifies through non-invasive methods that either the birds have not begun egg-laying and incubation or that juveniles

from the occupied burrows are foraging independently and are capable of independent survival. Eviction outside the nesting season may be permitted pending evaluation of eviction plans and receipt of formal written approval from the CDFG authorizing the eviction.

- Any damaged or collapsed burrows will be enhanced or replaced with artificial burrows in suitable habitat within the right of way consistent with CDFG guidelines.
- Unless otherwise authorized by CDFG, a 250-foot buffer, within which no activity will be permissible, will be maintained between Project activities and nesting burrowing owls during the nesting season. This protected area will remain in effect until 31 August or at CDFG's discretion and based upon monitoring evidence, until the young owls are foraging independently.
- If accidental take (disturbance, injury, or death of owls) occurs, the CDFG/CPUC/ FS/USACE lead monitor will be notified immediately.

B-30 **Conduct pre- and during construction nest surveys for spotted owls.** Prior to tree removal or construction activities within suitable habitat, SCE shall have a qualified biologist conduct FS protocol surveys for the California spotted owl to establish or confirm the location of nests within the Project. The resumes of the proposed biologists shall be provided to the FS and CPUC for concurrence. If nests or breeding pairs are found during the surveys, the limited operating period (LOP) will be applied according to the Forest Plan (Standard 20 – Part 3). No project-related activities will be allowed within these dates (February 1-August 15) or until chicks have fledged. Where a biological evaluation by a qualified ornithologist determines that a nest site would be shielded from planned activities by topographic or other features that would minimize disturbance, the buffer distance may be reduced upon approval of the FS on NFS lands. In addition, no helicopter construction will be allowed within 0.5 mile of breeding spotted owl territories. No helicopter overflights shall be authorized without FS approval. If approved minimum altitudes will be 300 feet above a territory at an altitude designated by the FS. This buffer may be adjusted through consultation with the FS and CPUC.

B-33a **Maternity colony or hibernaculum surveys for roosting bats.** SCE shall conduct a pre-activity (e.g., vegetation removal, grading) survey for roosting bats within 200 feet of project activities within 15 days prior to any grading of rocky outcrops or removal of towers or trees (particularly trees 12 inches in diameter or greater at 4.5 feet above grade with loose bark or other cavities) within 200 feet of project activities.

SCE shall also conduct surveys for roosting bats during the maternity season (1 March to 31 July) within 300 feet of project activities. Trees and rocky outcrops shall be surveyed by a qualified bat biologist (i.e., a biologist holding a CDFG collection permit and a Memorandum of Understanding with CDFG allowing the biologist to handle bats). Surveys shall include a minimum of one day and one evening. The resume of the biologist shall be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to any Project activities.

If active maternity roosts or hibernacula are found, the rock outcrop or tree occupied by the roost shall be avoided (i.e., not removed) by the Project, if feasible. If avoidance of the maternity roost is not feasible, the bat biologist shall survey (through the use of radio telemetry or other CDFG/FS/USACE approved methods) for nearby alternative maternity colony sites. If the bat biologist determines in consultation with and with the approval of the CDFG, FS, USACE (as appropriate), and CPUC that there are alternative roost sites used by the maternity colony and young are not present then no further action is required, and it will not be necessary to provide alternate roosting habitat (i.e., Mitigation Measure B-33b would not apply although Mitigation Measure B-33c would still apply). However, if there are no alternative roosts sites used by the maternity colony, Mitigation Measure B-33b is required. If no active roosts are found, then no

further action is required. If active maternity roosts are absent, but a hibernaculum (i.e., a non-maternity roost) is present, then Mitigation Measure B-33b is not necessary, but Mitigation Measure B-33c is required.

B-33b **Provision of substitute roosting bat habitat.** If a maternity roost will be impacted by the Project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the Project site no less than three months prior to the eviction of the colony. Alternative roost sites will be constructed in accordance with the specific bats requirements in coordination with CDFG and the FS. By making the roosting habitat available prior to eviction (Mitigation Measure B-33c), the colony will have a better chance of finding and using the roost. Large concrete walls (e.g., on bridges) on south or southwestern slopes that are retrofitted with slots and cavities are an example of structures that may provide alternative roosting habitat appropriate for maternity colonies. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. The CDFG shall also be notified of any hibernacula or active nurseries within the construction zone.

B-33c **Exclude bats prior to demolition of roosts.** If non-breeding bat hibernacula are found in towers or trees scheduled to be removed or in crevices in rock outcrops within the grading footprint, the individuals shall be safely evicted, under the direction of a qualified bat biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). The resume of the bat biologist shall be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to any Project activities. In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost because bats do not typically leave their roost daily during winter months in southern coastal California. This action should allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified bat biologist shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (i.e., there shall be no less or more than one night between initial disturbance and the grading or tree removal).

If an active maternity roost is located in an area to be impacted by the Project, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (i.e., prior to 1 March) or after young are flying (i.e., after 31 July) using the exclusion techniques described above.

B-36 **Conduct focused surveys for San Diego desert woodrats and passively relocate.** SCE shall implement pre-construction surveys for the San Diego desert woodrat in suitable habitats. If present, active woodrat nests will be flagged and ground-disturbing activities shall be avoided within a minimum of 10 feet surrounding each active nest unless otherwise authorized by the CDFG and CPUC. If avoidance is not possible, SCE will take the following sequential steps: (1) all understory vegetation will be cleared in the area immediately surrounding active nests followed by a period of one night without further disturbance to allow woodrats to vacate the nest, (2) each occupied nest will then be disturbed by a qualified wildlife biologist until all woodrats leave the nest and seek refuge off-site, and (3) the nest sticks shall be removed from the Project site and piled at the base of a nearby hardwood tree (preferably a coast live oak or California walnut). Relocated nests shall not be spaced closer than 100 feet apart, unless a qualified wildlife biologist has determined that a specific habitat can support a higher density of nests. SCE shall document all woodrat nests moved and provide a written report to the CPUC, USACE (as appropriate), and CDFG. The resumes of the proposed biologists shall be provided to the CPUC and USACE (as appropriate) for concurrence.

B-37 **Conduct focused surveys for ringtail and passively relocate during the non-breeding season.** SCE shall conduct pre-construction ringtail surveys on non-NFS lands at sites with suitable denning habitat within the Project area. This includes at a minimum Amargosa Creek, Santa Anita Canyon, San Gabriel River, and Tonner Canyon within 200 feet of any ground disturbing activity. SCE shall provide a list to the CPUC of the proposed survey areas for approval. Occupied dens will be flagged and ground-disturbing activities within 200 feet will be avoided. If occupied dens are found in the Project area and avoidance is not possible, denning ringtail shall be safely evicted under the direction of a qualified biologist (as determined by a Memorandum of Understanding with CDFG). The qualified biologist shall facilitate the removal of ringtail by delaying construction activity for a minimum 20 days during the early pup-rearing season (1 May to 15 June) and a minimum of 5 days during the rest of the year (16 June to 30 April). If the qualified biologist documents ringtail voluntarily vacating the den site during this period, then construction may begin within 7 days following this observation. If the ringtails do not vacate the den voluntarily within the required period, then the qualified biologist will coordinate with CDFG to passively relocate ringtail (excluding the early pup-rearing season: 1 May to 15 June). All activities that involve the ringtail shall be documented and reported to the CDFG and CPUC within 30 days of the activity.

B-38 **Conduct focused surveys for American badgers and passively relocate during the non-breeding season.** SCE shall implement pre-construction surveys for American badger within suitable habitat on non-NFS lands. If present, occupied badger dens shall be flagged and ground-disturbing activities avoided within 50 feet of the occupied den avoided. Maternity dens shall be avoided during pup-rearing season (15 February through 1 July) and a minimum 200-foot buffer established. Buffers may be modified with the concurrence of CDFG and CPUC. Maternity dens shall be flagged for avoidance, identified on construction maps, and a biological monitor shall be present during construction.

If avoidance of a non-maternity den is not feasible, badgers shall be relocated by slowly excavating the burrow (either by hand or mechanized equipment under the direct supervision of the biologist, removing no more than 4 inches at a time) before or after the rearing season (15 February through 1 July). Any relocation of badgers shall occur only after consultation with the CDFG, USACE (as appropriate), and CPUC monitor. A written report documenting the badger removal shall be provided to the CDFG, USACE (as appropriate), and CPUC within 30 days of relocation.

A.2.4 Cultural Resources

C-1a **Development and execution of a Programmatic Agreement (PA).** Since the Project's effects on historic properties cannot be fully determined before the Project has been approved, and the CPUC is a non-federal agency with decision-making responsibilities, the Forest Service, USACE, CPUC, and SCE, along with the Advisory Council on Historic Preservation if they choose to participate, will develop and execute a PA for the TRTP with the SHPO in accordance with 36 CFR 800.14(b)(ii) and (iii). The PA will guide the resolution of adverse effects to and management of historic properties. Consultation to develop the PA will follow 36 CFR 800.6. The PA will contain minimum standards and guidelines for identifying historic properties and evaluating their significance. It will include requirements for development and implementation of Historic Properties/Historical Resources Management Plans, Construction Phase Management Plans, archaeological monitoring, reporting, professional qualifications, artifact curation, Native American consultation, treatment of human remains, discovery of unknown cultural resources, cost, dispute resolution, amendment, termination, confidentiality, annual meetings, and duration.

C-1b **Inventory cultural resources in the APE.** APM CR-1 calls for intensive archaeological inventories of areas that may be disturbed by construction. As described in Section 3.5.2, cultural

resource inventories have been completed for most of the APE. However, some elements of the Project remain undefined and additional inventories may be necessary. Prior to construction and all other surface disturbing activities, SCE shall submit cultural resources inventory reports to the Forest Service, USACE, and CPUC for any portions of the APE which have not been inventoried previously, including but not limited to existing and newly proposed access and spur roads, construction turn-arounds, guard pole locations, marshalling yards, wire setup areas, helicopter staging areas, helicopter landing zones, and any other projected areas of potential ground disturbance outside of the previously surveyed areas. The nature and extent of additional inventory shall be determined by the Forest Service, USACE, and CPUC in consultation with the State Historic Preservation Officer (SHPO). Results of these inventories shall also be filed with the appropriate Information Centers of the California Historical Resources Information System. Site-specific field surveys also shall be undertaken at all projected areas of impact within the previously surveyed corridor that coincide with previously recorded resource locations to further refine the assessment of potential Project effects. The selected tower locations and other direct impact areas shall be staked prior to the cultural resource field surveys.

C-1c **Avoid and protect cultural resources.** APMs CR-2, CR-2a, and CR-2c call for avoidance of impacts through Project redesign or use of protective buffer zones. The Forest Service, USACE, and CPUC may require the relocation of transmission lines, ancillary facilities, or temporary facilities or work areas, if any, where relocation would avoid or reduce damage to cultural resource values. Where operationally feasible, NRHP-eligible resources shall be protected from direct Project impacts by Project redesign and inclusion of sites in exclusion areas.

All cultural resources that will not be impacted directly but are within 50 feet of direct impact areas shall be designated as Environmentally Sensitive Areas (ESAs). Protective fencing or other markers, at the Forest Service, USACE, or CPUC's discretion, shall be erected and maintained to protect ESAs from inadvertent trespass for the duration of construction in the vicinity. Construction personnel and equipment shall be instructed on how to avoid ESAs. ESAs shall not be identified specifically as cultural resources. A monitoring program shall be developed as part of the Historic Properties Treatment Plan (see Mitigation Measure C-1e, Develop and implement a Historic Properties Treatment Plan) and implemented by the SCE to ensure the effectiveness of ESAs.

C-1d **Evaluate the significance of cultural resources that cannot be avoided.** APMs CR-3, CR-3a, and CR 3b call for formal significance evaluation of archaeological sites and historical buildings and structures that cannot be avoided during construction. APM CR-3c calls for consultation with Native Americans regarding traditional cultural values that may be associated with archaeological sites. Where the Forest Service, USACE, and/or CPUC decide that cultural resources cannot be protected from direct impacts by Project redesign or avoidance, SCE shall undertake additional studies to evaluate the resources' NRHP eligibility and to recommend further treatment, if necessary. The nature and extent of this evaluation shall be determined by the Forest Service in consultation with the USACE, CPUC, SCE, and the SHPO. Consultation shall include direct contact with Native American tribal representatives to seek their views on the significance of resources having a Native American component. Significance evaluations will be based on surface remains, subsurface testing, archival and ethnographic resources, and in the framework of the historic context and research questions important to the general Project area. Results of those evaluation studies and recommendations for mitigation of Project effects shall be incorporated into a Historic Properties Treatment Plan consistent with Mitigation Measure C 1e (Develop and implement a Historic Properties Treatment Plan).

C-1e **Develop and implement Historic Properties/ Historical Resources Treatment Plan.** Upon Forest Service, USACE, and CPUC approval of the inventory report and the NRHP eligibility evaluations, consistent with Mitigation Measures C-1b (Inventory cultural resources in the Final

APE), C-1c (Avoid and protect resources), and C-1d (Evaluate the significance of cultural resources that cannot be avoided), SCE shall prepare and submit for approval a Historic Properties Treatment Plan (HPTP) or Historical Resources Management Plan (HRMP) for NRHP/CRHR-eligible cultural resources to mitigate or avoid identified impacts. Treatment of cultural resources shall follow the procedures established by the Advisory Council on Historic Preservation for compliance with Section 106 of the National Historic Preservation Act and the Secretary of Interiors Standards and Guidelines for the Treatment of Historic Properties. Mitigation alternatives may include, but are not limited to, avoidance, recordation, additional analysis of existing collections, and data recovery excavation. The HPTP or HRMP (herein HP/HRMP) shall be submitted to the Forest Service, USACE, and CPUC for review and approval.

As part of the HP/HRMP, SCE shall prepare a research design and a scope of work for data recovery or additional treatment of significant sites that cannot be avoided. Data recovery on most resources would consist of sample excavation and/or surface artifact collection, and site documentation. A possible exception would be a site where human remains or sacred features are discovered that cannot be avoided.

The HP/HRMP shall define and map all known significant properties affected, or potentially affected, by the Project, and shall identify the cultural values that contribute to their eligibility for the NRHP. A Construction Phase Management Plan shall be included that details how cultural resources will be avoided and protected during construction, in accordance with the PA. Measures shall include, at a minimum, designation and marking of Environmentally Sensitive Areas (ESAs), archaeological monitoring, personnel training, and effectiveness reporting. The plan shall detail what measures will be used; how, when, and where they will be implemented; and how protective measures and enforcement will be coordinated with construction personnel.

The HP/HRMP shall also define any additional areas that are considered to be of high-sensitivity for discovery of buried NRHP-eligible cultural resources, including burials, cremations, or sacred features. The HP/HRMP shall detail provisions for monitoring construction in these high-sensitivity areas. It shall also detail procedures for halting construction, making appropriate notifications to agencies, officials, and Native Americans, assessing NRHP-eligibility in the event that unknown cultural resources are discovered, and the timelines for assessing NRHP-eligibility, formulating a mitigation plan, and implementing treatment. Treatment plans for unanticipated discoveries shall be approved by the Forest Service, USACE, CPUC, appropriate Native Americans, and the SHPO prior to implementation.

The HP/HRMP shall include provisions for analysis of data in a regional context, reporting of results within one year of completion of field studies, and curation of artifacts and data (maps, field notes, archival materials, recordings, reports, photographs, and analysts' data) at a facility that is approved by Forest Service, USACE, and CPUC, and dissemination of reports to local and State repositories, libraries, and interested professionals. The Forest Service will retain ownership of artifacts collected from Forest Service managed lands. SCE shall attempt to gain permission for artifacts from privately held land to be curated with the other Project collections. The HP/HRMP shall specify that archaeologists and other discipline specialists con-ducting the studies meet the Secretary of the Interior's Professional Qualifications Standards (per 36 CFR 61).

C-1f **Conduct data recovery excavation or other actions to reduce adverse effects.** If NRHP eligible resources, as determined by the CPUC, Forest Service, USACE, and SHPO, cannot be protected from direct impacts of the Project, SCE shall implement data-recovery investigations or other actions to reduce adverse effects to the characteristics of each property that make it eligible for the NRHP. For archaeological sites eligible under Criterion d, significant data would be recovered through excavation and analysis. For properties eligible under Criteria a, b, or c, treatment may include historical documentation, photography, collection of oral histories,

architectural or engineering documentation, preparation of a scholarly work, or some form of public awareness or interpretation. Information gathered during the evaluation phase and the research design element of the HP/HRMP shall guide plans and data thresholds for data recovery; treatment will be based on the resource's research potential beyond that realized during resource recordation and evaluation studies. If data recovery excavation is necessary, appropriate sampling methods will be proposed. Sampling will be confined, as much as possible, to the direct impact area. Data-recovery methods, sample sizes, and procedures shall be detailed in the HP/HRMP consistent with Mitigation Measure C-1e (Develop and implement Historic Properties/Historical Resources Treatment Plan) and implemented by SCE only after approval by the Forest Service, USACE, and CPUC. Following any field investigations required for data recovery, SCE shall document the field studies and findings, including an assessment of whether adequate data were recovered to reduce adverse Project effects, in a brief field closure report. The field closure report shall be submitted to the Forest Service, USACE, and CPUC for their review and approval, as well as to the appropriate State repositories and local governments. Construction work within 100 feet of cultural resources that require data-recovery fieldwork shall not begin until authorized by the Forest Service, USACE, or CPUC, as appropriate.

C-1g **Conduct cultural resources monitoring.** APM CR-5 calls for preparation of a construction monitoring and inadvertent discovery plan. A professional archaeologist shall monitor subsurface construction disturbance at all locations identified in the HP/HRMP where monitoring is required (see Mitigation Measure C-1e, Develop and implement a Historic Properties/Historical Resources Treatment Plan). These locations and their boundaries shall be defined and mapped in the HP/HRMP. Intermittent monitoring may occur in areas of moderate archaeological sensitivity at the discretion of the Forest Service, USACE, and/or CPUC. Archaeological monitoring shall be conducted by a qualified archaeologist familiar with the types of historical and prehistoric resources that could be encountered within the Project APE, and under direct supervision of a principal archaeologist. The qualifications of the principal archaeologist and archaeological monitors shall be approved by the Forest Service, USACE, and CPUC. A Native American monitor may be required at culturally sensitive locations. SCE shall retain and schedule any required Native American monitors.

Compliance with and effectiveness of the cultural resources monitoring plan shall be documented by SCE in a monthly report to be submitted to the Forest Service, USACE, and CPUC, for the duration of Project construction. In the event that cultural resources are not properly protected by ESAs, all Project work in the immediate vicinity shall be diverted by the archaeological monitor until authorization to resume work has been granted by the Forest Service, USACE, and CPUC. SCE shall notify the Forest Service of any damage to cultural resource ESAs. SCE shall consult with the Forest Service, USACE, and CPUC to mitigate damages and to increase effectiveness of ESAs. At the discretion of the Forest Service, USACE, and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.

C 1h **Workers Environmental Awareness Program.** APM CR-2b calls for a pre-construction worker education program. All construction personnel shall be trained regarding the recognition of possible buried cultural remains and protection of all cultural resources, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. SCE shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized

collection or disturbance of artifacts or other cultural materials on or off the ROW by SCE, their representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the Project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:

- All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits, their responsibility to avoid and protect all cultural resources, and the penalties for collection, vandalism, or inadvertent destruction of cultural resources.
- SCE shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by Project personnel or archaeological monitors. Supervisors shall also be briefed on the consequences of intentional or inadvertent damage to cultural resources. Supervisory personnel shall enforce restrictions on collection or disturbance of artifacts or other cultural resources.
- Upon discovery of potential buried cultural materials by archaeologists or construction personnel, or damage to an ESA, work in the immediate area of the find shall be diverted and SCE's archaeologist notified. Once the find has been inspected and a preliminary assessment made, SCE's archaeologist will consult with the Forest Service, USACE, or CPUC, as appropriate, to make the necessary plans for evaluation and treatment of the find(s) or mitigation of adverse effects to ESAs.

SCE shall provide to the CPUC, USACE, and Forest Service a list of construction personnel who have completed the cultural resources identification training prior to start of construction, and this list shall be updated by SCE as required when new personnel start work. No construction worker may work in the field without first participating in the Environmental Awareness Training.

C-1i **Protect and monitor NRHP-Eligible properties.** SCE shall design and implement a long-term plan which will be included in the HP/HPMP to protect NRHP-eligible sites from direct impacts of Project operation and maintenance and from indirect impacts, such as erosion, that result from the presence of the Project. The plan shall be developed in consultation with the Forest Service, USACE, and CPUC to design measures that will be effective against Project maintenance impacts and Project-related vehicular impacts. The plan shall also include protective measures for significant properties within the TRTP corridor that will experience operational and access impacts as a result of the proposed Project. The proposed measures may include restrictive fencing or gates, permanent access and spur road closures, signage, stabilization of erosion, site capping, site patrols, interpretive/educational programs, and/or other measures that will be effective for protecting cultural resources. The plan shall be property specific and shall include provisions for monitoring and reporting its effectiveness and for addressing inadequacies or failures that result in damage to significant properties. The plan shall be submitted to the Forest Service, USACE, and CPUC for review and approval one year after execution of the PA as stated in the PA.

Monitoring of selected sites shall be conducted annually by a professional archaeologist for a period of three years following completion of Project construction. Monitoring shall include inspection of all site loci and defined surface features, documented by photographs from fixed photo-monitoring stations and written observations. A monitoring report shall be submitted to the Forest Service, USACE, and CPUC within one month following the annual resource monitoring. The report shall indicate any properties that have been impacted by erosion or vehicle or maintenance impacts. For properties that have been impacted, SCE shall provide recommendations for mitigating impacts and for improving protective measures. After the third

year of resource monitoring, the Forest Service, USACE, or CPUC, as appropriate, will evaluate the effectiveness of the protective measures and the monitoring program. Based on that evaluation, the Forest Service, USACE, or CPUC may require that SCE revise or refine the protective measures, or alter the monitoring protocol or schedule. If the CPUC, USACE, and Forest Service (for NFS lands) do not authorize alteration of the monitoring protocol or schedule, those shall remain in effect for the duration of Project operation.

If the annual monitoring program identifies adverse effects to NRHP-eligible properties from operation or long-term presence of the Project, or if, at any time, SCE, Forest Service, USACE, or CPUC become aware of such adverse effects, SCE shall notify the Forest Service, USACE, and CPUC immediately and implement mitigation for adverse effects, as directed by the agencies. At the discretion of the Forest Service, USACE, and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.

C-2 **Treatment of human remains discovered during construction.** APM CR-6 addresses the inadvertent discovery of human remains. If human remains are discovered during construction, all work will be diverted from the area of the discovery and the CPUC, USACE, and Forest Service authorized officer will be informed immediately. SCE shall follow all State and federal laws, statutes, and regulations that govern the treatment of human remains. As requested, SCE shall assist and support the CPUC, USACE, and Forest Service to comply with NAGPRA. SCE shall comply with all relevant Public Resource Codes and Health and Safety Codes regarding the discovery and handling of human remains, shall support consultation with Native Americans and appropriate agencies and commissions, and shall comply with and implement actions and studies as directed by the CPUC, USACE, and/or Forest Service.

A.2.5 Environmental Contamination and Hazards

E-2a **Perform Phase I ESAs along existing transmission line rights-of-way (ROWs).** SCE shall conduct Phase I Environmental Site Assessments (ESAs) within a 0.25-mile corridor along the segments identified below to determine whether there is a record of hazardous material contamination which would affect construction activities. This investigation will determine the likelihood of on-site contamination and shall identify the need for further investigation and/or remediation of soil or groundwater within areas of ground disturbance for the Project. For example, if there would be little or no human contact with contaminated materials by avoidance of the area or because no excavation is required during construction, no further mitigation would be required. However, if Project construction activities would involve human contact with contaminated materials that could potentially affect the health or safety of workers or the public during construction of the Project, then Mitigation Measure E-2b (Perform Phase II Investigations for potentially contaminated sites) shall be implemented.

- Segment 7 from S7 MP 1.8 to MP 15.8
- Segment 8A from S8A MP 2.2 to MP 7.0, S8A MP 15.2 to MP 15.5, S8A MP 24 to 35.2
- Segment 8B from S8B MP 0.0 to MP 6.8
- Segment 8C from S8C MP 0.0 to MP 6.4
- Segment 11 from S11 MP 26 to MP 36.2

E-2b **Perform Phase II investigations for potentially contaminated sites.** Phase II Environmental Site Investigations (ESIs) shall be performed on sites that have been determined by the Phase I ESAs performed under APM HAZ-1 and Mitigation Measure E-2a (Perform Phase I ESAs along existing transmission line rights-of-way) to be potentially contaminated. If it is determined that

disturbance or excavation of contaminated soils or groundwater would occur during construction at a given site, SCE would undertake a Phase II ESI involving sampling and further characterization of potentially contaminated areas within the Project ROW or reroute the line away from the contamination area. Should further investigation reveal high levels of hazardous materials, SCE would mitigate health and safety risk according to Los Angeles County Certified Unified Program Agency (CUPA) or Regional Water Quality Control Board (RWQCB) regulations or requirements. This would include site-specific Health and Safety Plans, Work Plans, and/or Remediation Plans.

E-3a **Determine if landfill gases are present.** To assess the likelihood that contamination from identified landfills could be present in the Project alignment construction zone, SCE shall complete a search of landfill records, plans, maps and gas monitoring to determine the limits of landfill waste and landfill gas plume for all landfills listed below. For all locations at which the records review cannot confirm a gas-free landfill perimeter adjacent to the Project construction zone, a soil vapor survey shall be conducted. The soil vapor survey shall consist of driving probes in areas of proposed excavation and grading activities along the transmission line corridors and substation sites. Vapor samples shall be tested for methane, other flammable gases, and volatile organic compounds. Laboratory test results shall be reported to the Department of Toxic Substances Control (DTSC) or the appropriate County Environmental Health Division and shall include an assessment of the contamination potential in the excavation area. Documentation of all site research and a copy of the Los Angeles CUPA approval letter shall be provided to the CPUC at least 30 days prior to the start of construction within the appropriate Project segment.

Landfill Sites Near Project Alignment

Segment	Milepost	Corresponding EDR Site ID No.
Segment 7	MP 2	35
Segment 7	MP 4.2	47
Segment 7	MP 4.3-4.4	50-52, 56
Segment 7	MP 4.7-4.9	62, 64
Segment 7	MP 10.8	165
Segment 7	MP 14.2-14.5	185, 193
Segment 7	MP 14.8-15.8	0
Segment 8A	MP 4.8-6.0	207
Segment 8B	MP 0.3	254
Segment 8B	MP 4.4	219

E-3b **Implement personnel safety and monitoring measures.** If laboratory tests indicate the presence of landfill gases in the construction areas, a Health and Safety Plan shall be developed by a licensed industrial hygienist and a gas monitoring program shall be implemented by SCE or its contractors. A Health and Safety Plan shall also be developed for work in areas within 500 feet of active, inactive or abandoned oil wells that includes requirements for gas monitoring of excavations. A copy of the Health and Safety Plan and monitoring program shall be submitted to the appropriate CUPA agency and the CPUC at least 30 days prior to the start of construction within the appropriate Project segment.

E-3c **Verify location and status of abandoned oil and natural gas wells.** Prior to excavation and construction activities, SCE shall contact the California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) for specific information on wells located within 500 feet of the transmission line route, including location and abandonment details. SCE shall avoid construction near (within 50 feet) abandoned oil or gas wells. If a tower or trench is located within 50 feet of a plugged or abandoned well, SCE shall coordinate with DOGGR and provide written confirmation to the CPUC that the well has been correctly abandoned and does not require

remedial plugging or the installation of a gas venting system. If documentation of proper abandonment is not available, SCE shall provide and implement a work plan for natural gas testing and controls for the work area and excavations which complies with OSHA standards for protection of workers. The work plan shall include, at a minimum, the following: testing of areas where hazardous atmosphere exists or could reasonably be expected to exist (excavations and work areas within 50 feet of identified oil or gas wells), and if hazardous atmosphere is identified controls such as proper respiratory protection or ventilation must be provided. Additionally, the work plan shall require regular testing of controls used to reduce atmospheric contaminants to acceptable levels. The work plan shall also require that where adverse atmospheric conditions may exist or develop in an excavation area, emergency rescue equipment (e.g., breathing apparatus, a safety harness and line, basket stretcher, etc.) must be kept readily available.

If an unrecorded well is encountered during construction, SCE shall stop construction and notify DOGGR immediately. Although SCE would not be responsible to properly abandon oil wells in the vicinity of the Project, construction at the location will resume after SCE has coordinated with DOGGR to verify well status and provided the CPUC with written confirmation that the well has been correctly abandoned and does not require remedial plugging or the installation of a gas venting system. If documentation of proper abandonment is not available, SCE shall provide and implement a work plan, with the above-described specifications, for natural gas testing and controls for the work area and excavations.

E-4a **Appoint individuals with correct training for sampling, data review, and regulatory coordination.** In the event that potential contaminated soil or groundwater is encountered during construction activities, samples shall be collected by an Occupational Safety and Health Administration (OSHA) trained individual with a minimum of 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) worker training. Laboratory data from suspected contaminated material shall be reviewed by the contractor's Health and Safety Officer and/or SCE's Field Environmental Representative and they shall coordinate with the appropriate regulatory agency (RWQCB or local CUPA agency) if contamination is confirmed, to determine the suitable level of worker protection and the necessary handling and/or disposal requirements.

E-4b **Document compliance with APM HAZ-3.** If the visual or olfactory evidence of contamination in the exposed soil is observed during grading or excavation work, the location and the potential contamination, results of laboratory testing, recommended remediation (if contamination is verified), and actions taken shall be documented in a report and submitted to the CPUC and FS (for NFS lands) for each event. This report shall be submitted within 30 days of receipt of laboratory data.

A.2.6 Geology, Soils, and Paleontology

G-1 **Coordination with oil field operations.** Operations and management personnel for the oil fields shall be consulted regarding access requirements, and SCE and its contractors shall coordinate construction activities across and along necessary oil field access roads in a manner to limit interference with oil field operations. A plan to avoid or minimize interference with oil field operations shall be prepared in conjunction with oil field operators prior to construction. SCE shall document compliance with this measure by submitting the plan to the CPUC for review 30 days prior to the start of construction in the affected Project segments.

G-3 **Conduct geological surveys for landslides and protect against slope instability.** Design-level geotechnical investigations performed by SCE shall include geological surveys for landslides that will allow identification of specific areas with the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in other areas of ground disturbance, such as access and spur roads and staging and work areas. The geotechnical

investigations shall evaluate subsurface conditions, identify potential hazards, and provide information for development of excavation plans and procedures. If the results of the geotechnical survey indicate the presence of unstable slopes at or adjacent to Project structures, appropriate support and protection measures shall be designed and implemented to maintain the stability of slopes adjacent to newly graded or re-graded access and spur roads, work areas, and Project structures during and after construction, and to minimize potential for damage to Project facilities. These design measures shall include, but are not limited to, retaining walls, visqueen, removal of unstable materials, and avoidance of highly unstable areas. Appropriate construction methods and procedures, in accordance with State and federal health and safety codes, shall be followed to protect the safety of workers and the public during drilling and excavation operations. SCE shall document compliance with this measure by submitting a report to the CPUC and FS (for NFS lands) for review at least 30 days prior to final Project design. The report shall document the investigations and detail the specific support and protection measures that will be implemented. Additionally, along Segment 8A (between approximately S8A MPs 5.4 and 6.6), where portions of the proposed project alignment and associated access roads are located adjacent to the Puente Hills Landfill in an area where known slope stability issues and landslides are present, SCE shall coordinate with the County Sanitation Districts of Los Angeles County (LACSD) regarding known landslides and landslide repairs along the southwestern boundary of the landfill and shall submit the geological survey and slope stability reports, including recommended support and protection measures for Segment 8 to the LACSD for review at least 30 days prior to final project design.

G-4 **Avoid placement of project structures on active fault traces.** Prior to final Project design SCE shall perform a fault evaluation study to confirm the location of mapped traces of active and potentially active faults crossed by the Project route or other Project structures. For crossings of active faults, the Project design shall be planned so as not to locate towers or other Project structures on the traces of active faults; and in addition, Project components shall be placed as far as feasible outside the areas of mapped fault traces. Compliance with this measure shall be documented to the CPUC and FS in a report submitted for review at least 60 days prior to the start of construction.

G-5a **Reduce effects of groundshaking.** The design-level geotechnical investigations performed by SCE shall include site-specific seismic analyses to evaluate ground accelerations for design of Project components. Based on these findings, Project structure designs shall be modified/strengthened, as deemed appropriate by the Project engineer, if the anticipated seismic forces are found to be greater than standard design load stresses on Project structures. Study results and proposed design modifications shall be provided to the CPUC and FS for review at least 60 days before final Project design.

G-5b **Conduct geotechnical investigations for liquefaction.** Because seismically induced liquefaction-related ground failure has the potential to damage or destroy Project components, the design-level geotechnical investigations to be performed by SCE shall include investigations designed to assess the potential for liquefaction to affect the approved Project and all associated facilities, specifically at tower locations in areas with potential liquefaction-related impacts (portions of Segments 5, 7, 11, 8A, 8B, and 8C underlain by alluvium with the potential for shallow groundwater). Where these hazards are found to exist, appropriate engineering design and construction measures shall be incorporated into the Project designs as deemed appropriate by the Project engineer. Design measures that would mitigate liquefaction-related impacts could include construction of pile foundations, ground improvement of liquefiable zones, installation of flexible bus connections, and incorporation of slack in cables to allow ground deformations without damage to structures. Study results and proposed solutions to mitigate liquefaction shall be provided to the CPUC and FS for review at least 60 days before final Project design.

G-6 **Conduct geotechnical studies to assess soil characteristics and aid in appropriate foundation design.** The design-level geotechnical studies to be performed by SCE shall identify the presence, if any, of potentially detrimental soil chemicals, such as chlorides and sulfates. Appropriate design measures for protection of reinforcement, concrete, and metal-structural components against corrosion shall be utilized, such as use of corrosion-resistant materials and coatings, increased thickness of Project components exposed to potentially corrosive conditions, and use of passive and/or active cathodic protection systems. The geotechnical studies shall also identify areas with potentially expansive or collapsible soils and include appropriate design features, including excavation of potentially expansive or collapsible soils during construction and replacement with engineered backfill, ground-treatment processes, and redirection of surface water and drainage away from expansive foundation soils. Studies shall conform to industry standards of care and American Society for Testing and Materials (ASTM) standards for field and laboratory testing. Study results and proposed solutions shall be provided to the CPUC and FS, as appropriate, for review at least 60 days before final Project design.

A.2.7 Hydrology and Water Quality

H-1a **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** SCE shall develop and submit to the CPUC and FS for approval 30 days prior to construction an Erosion Control Plan, and implement Best Management Practices (BMPs), as described below. (Note: The Erosion Control Plan may be part of the same document as the Stormwater Pollution Prevention Plan.) Within the Erosion Control Plan, the applicant shall identify the location of all soil-disturbing activities, including but not limited to new and/or improved access and spur roads, the location of all streams and drainage structures that would be directly affected by soil-disturbing activities (such as stream crossings by access roads), and the location and type of all BMPs that would be installed to protect aquatic resources. The Erosion Control Plan shall include a proposed schedule for the implementation and maintenance of erosion control measures and a description of the erosion control practices, including appropriate design details. As part of the Erosion Control Plan, SCE shall maintain a logbook of all precipitation events within the Project area that produce more than one inch of precipitation within a 24-hour period. The logbook shall contain the date of the precipitation event, the approximate duration of the event, and the amount of precipitation (measured as the largest amount recorded by a rain gage or weather station within one mile of the Project). Additionally, the logbook shall include a narrative evaluation (and/or a numerical evaluation, if required by the FS or other jurisdictional agency) of the erosion-prevention effectiveness of the existing BMPs, as well as a description of any post-storm modifications to those BMPs. The logbook shall be submitted to the CPUC and FS for review within 30 days following the first storm event (after construction has begun) that produces greater than one inch of precipitation within a 24-hour period. SCE shall re-submit the logbook annually after the first storm of the rainy season that produces more than one inch of precipitation within a 24-hour period. The logbook shall be retired 5 years after completion of construction. In addition to the Erosion Control Plan, the applicant shall submit to the CPUC and the FS evidence of possession of all required permits before engaging in soil-disturbing construction/demolition activities, before entering flowing or ponded water, or before constructing a crossing at flowing or ponded water. Such permits may include, but are not limited to, a Streambed Alteration Agreement from the California Department of Fish and Game, a Clean Water Act (CWA) Section 404 permit from the USACE, a CWA Section 402 NPDES General Permit for Storm Water Discharges Associated with Construction Activities (General Permit) from the applicable Regional Water Quality Control Board(s) (RWQCBs), and/or a CWA Section 401 certification from the applicable RWQCBs. In addition, if construction-related excavation activities on National Forest System (NFS) lands encounter perched groundwater, triggering the need for dewatering activities to occur in compliance with Applicant-Proposed Measure HYD-6

(Drilling and Construction Site Dewatering Management), SCE shall notify the Forest Service at the onset of dewatering and, upon the completion of dewatering activities at the affected site(s), SCE shall submit to the Forest Service written description of all executed dewatering activities, including steps taken to return encountered groundwater to the subsurface.

H-1b **Dry weather construction.** Any construction activities within the ANF shall be scheduled to avoid anticipated precipitation events that are predicted to produce more than one inch of precipitation over a 24-hour period, unless expressly authorized by the FS. If an unexpected precipitation event occurs while construction activities are already underway, SCE shall contact the FS for guidance. The FS may require cessation of construction activities within their jurisdiction during any precipitation event in order to prevent excessive erosion and to protect aquatic resources. On NFS lands, SCE shall also observe any criteria promulgated by the FS regarding construction during precipitation events. SCE shall provide documentation to the CPUC monitor of all wet-weather coordination with the FS.

A.2.8 Land Use

L-1a **Construction liaison – property owners.** SCE shall provide a toll-free general phone number, and the name and contact information for a local public liaison (or liaisons) to all affected property owners within 300 feet of construction-related activities. The toll-free access number and the identified local public liaison(s) shall act as points of contact and interface between residents and construction crews for that area. The toll-free number and local public liaison(s) shall be available both in person and by phone, as necessary, for at least 14 days prior to the start of any construction-related activities and for up to six months following construction. The local public liaison(s) shall respond to all construction-related questions and concerns within a 72-hour period during construction when contact information is provided. Post-construction, replies shall be made within a two-week period.

SCE shall provide summary documentation of all complaints, comments, and concerns communicated to the liaison every two months for the duration of construction and for one year following the completion of construction. The compliance documentation will be treated as confidential and shall include the name and address of the person contacting the local public liaison(s), the date of contact, and what actions were taken by the local public liaison(s) to rectify and/or address the complaints, comments or concerns expressed. The compliance documentation shall be submitted to the CPUC throughout the duration of construction and for one year following construction.

L-1b **Advance notification of construction – property owners.** SCE shall give at least 14 days advance notice of the start of any construction-related activities to potentially affected property owners. The notification shall include the toll-free general phone number, contact information for the local public liaison(s) (Mitigation Measure L-1a, Construction liaison – Property owners), including a phone number (or phone numbers), as well as an internet website address where additional information related to construction can be found. Notification shall be provided by: (1) mailing notices to all property owners within 300 feet of all approved ROW segments, construction-related work areas, and substation sites; and, (2) placing notices in local newspapers.

L-1c **Quarterly construction updates – property owners.** Following publication/transmittal of the advance notification of construction (Mitigation Measure L-1b, Advance notification of construction – Property owners), SCE shall provide all affected property owners with updates and changes to all of the information provided in the pre-construction notification as related to their Segment-specific location. The updates shall be provided every quarter for the duration of all construction-related activities. Post-construction noticing for restoration activities shall be provided annually. The updates shall continue to provide the toll-free number and the name and

phone number of the local public liaison(s) to respond to all construction-related questions and concerns. The local public liaison(s) shall continue to respond to all questions and complaints within a 72-hour period during construction and within two weeks post-construction (Mitigation Measure L-1a, Construction liaison – Property owners).

The updates shall be: (1) mailed to all property owners within 300 feet of all approved ROW segments, construction-related work areas, and substation sites; (2) placed in local newspapers; and, (3) posted on the Project's Internet website (Mitigation Measure L-1b).

L-2a **Construction plan provisions – non-residential property owners.** SCE shall incorporate provisions into its construction plans and schedules to minimize the length of time that construction-related activities occur in areas actively used for non-residential purposes, such as commercial and service uses, industrial uses, public/special uses, and educational facilities. SCE shall ensure that all affected non-residential property owners within 300 feet of the ROW are always provided with at least one point of vehicular (passenger car and truck) and pedestrian access to their respective properties throughout all phases of construction.

Immediately following the completion of construction, SCE shall ensure that all affected non-residential properties and uses affected by construction outside of the ROW are fully restored to their pre-construction conditions.

L-2b **Aircraft flight path and safety provisions and consultations.** Prior to construction, SCE shall consult with the Federal Aviation Administration (FAA) and ensure the filing of all forms and associated specifications per the requirements of Federal Aviation Regulations (FAR) Title 14, Part 77. In addition, prior to the start of construction, SCE shall consult with all affected Airport Land Use Commissions (or their alternative process) and the FS to ensure that construction, operation, and maintenance of the Project does not conflict with local aircraft operations or associated safety provisions.

L-4 **Consult with federal, state, and local Agencies.** Prior to construction, SCE shall consult with all federal, State, and local agencies, including local agency consortiums, having jurisdiction over lands within one-half mile of the Project's ROW and ancillary facilities to minimize that no permanent restrictions or preclusions of their land management practices. The SCE shall additionally ensure that a liaison to these agencies is available for the operational life of the Project to address and reconcile any future potential conflicts with land management practices. SCE will provide affected agencies with the name and contact information of the liaison and update that contact information as necessary.

A.2.9 Noise

N-1a **Implement best management practices for construction noise.** SCE shall implement the following noise-suppression techniques, at a minimum, to avoid possible violations of local rules, standards, and ordinances during construction:

- On construction equipment, use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.
- Install temporary sound walls or acoustic blankets around stationary noise sources (e.g., generators, pumps) to shield adjacent sensitive receptors. Where feasible, these sound walls or acoustic blankets shall have a height of no less than 8 feet, a Sound Transmission Class (STC) of 27 or greater, and a surface with a solid face from top to bottom without any openings or cutouts.
- Minimize unnecessary construction vehicle idling time (see also Mitigation Measure AQ-1g: Restrict diesel engine idling to 5 minutes). The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where

vehicles are needed or staged. A "common sense" approach to vehicle use shall be applied; if a vehicle is not required for use immediately or continuously for construction activities, its engine shall be shut off. (Note: certain equipment, such as large diesel powered vehicles, require extended idling for warm-up and repetitive construction tasks and would therefore not be subject to being shut off when not in use.)

N-1b **Avoid sensitive receptors during mobile construction equipment Use.** SCE shall route all construction traffic and helicopter flight away from residences, schools, and recreational facilities to the maximum extent feasible.

A.2.10 Public Services and Utilities

PSU-1a **Revise SCE's Fire Management Plan.** Appendix D of the Proponent's Environmental Assessment (PEA) includes the Transmission Line Project Fire Plan to reduce the risk of igniting a fire during construction and operation as well as controlling the spread of a fire should one occur. The Plan shall be revised with the following provisions and submitted to the CPUC and FS no less than 60 days prior to construction:

- The Smoking and Fire Rules require the Constructor to designate smoking areas "…in a barren area or in an area cleared to mineral soil at least three feet in diameter." SCE shall revise the Plan to mandate that these smoking areas are located at a radius of at least 50 feet from all hazardous material, gas and oil storage areas, and equipment service areas.
- In Section 1.6 of the Fire Plan, Precautions in Areas of Fire Hazards, SCE shall designate Critical Protection Sites. In particular, these sites will be areas associated with dry habitats, chaparral vegetation, inhabited property, and a considerable history of wildfires. Designations of these sites inform construction crews of the need for the precautions noted in Section 1.6, which include the following: prohibit smoking on the jobsite; require the use of spark arrestors on equipment exhaust; designation of a Fire Patrolperson whose responsibility shall be solely to monitor the Constructor's fire prevention activities; require portable firefighting equipment, shovels, axes, and other necessary firefighting equipment; and observe all other precautionary measures that may be ordered by the FS, Division of Forestry of the State, and County Fire Departments.

PSU-1b **Review of construction methods by county fire departments.** SCE shall coordinate with the Kern, Los Angeles, and San Bernardino County Fire Departments to review the specific construction methods and equipment, and identify any additional requirements that will minimize the potential for wildfires. Prior to construction, SCE shall include documentation of this coordination in the Transmission Line Project Fire Plan, and submit the Plan to the CPUC, FS (for NFS lands), and the county fire departments no less than 60 days prior to the start of construction, such as the following:

- Any motor, engine, welding equipment, cutting torch, grinding device or equipment from which a spark, fire, or flame may originate shall not be used without first: (a) clearing away all flammable material for a distance of 10 feet, and (b) having on hand a round-point shovel with an overall length of not less than 46 inches and a fire extinguisher or water-filled backpack pump fully equipped and ready to use. This does not apply to power saws and other portable tools powered by a gasoline-fueled internal combustion engine (see next bullet).
- Any portable gasoline-powered tool (chainsaws, etc.) shall not be used within 25 feet of any flammable materials without providing one round-point shovel with an overall length of not less than 46 inches or a fire extinguisher having a minimum rating of 2-BC. The fire tools must be unobstructed and within 25 feet of the tool operation at all times. Motor

vehicles shall not be parked or operated outside of cleared work areas except for the specific purpose of clearing vegetation.

PSU-1c Practice safe welding procedures. SCE shall select a welding site that is free of native combustible material and/or clear the site of such material to minimize the fire hazard. All welding on supporting structures shall be performed during fabrication of the structures at the fabricator's yard, to the extent practicable.

PSU-1d Fire preventive construction equipment requirements. SCE shall meet the following requirements for gasoline, diesel, or other hydrocarbon fuel-powered equipment prior to construction:

- The exhausts of all equipment powered by gasoline, diesel, or other hydrocarbon fuel shall be equipped with effective spark arrestors.
- The spark arrestor shall be designed to prevent the escape from the exhaust of carbon or other flammable particles over 0.0232 inches. Motor trucks, truck tractors, buses, and passenger vehicles (except motorcycles) shall not be subject to this provision if their exhaust systems are equipped with mufflers.
- All welding rigs shall be equipped with a minimum of one 20-pound or two 10-pound fire extinguishers, and a minimum of five gallons of water in a fire-fighting apparatus

PSU-4 Notification of utility service interruption. Prior to Project construction in which a utility service interruption is known to be unavoidable, SCE shall notify members of the public, the jurisdiction, and the service providers that would be affected by the planned outage by mail. SCE shall also publish notice in a newspaper of local jurisdiction. The notice shall specify the estimated duration of the planned outage, and shall be published no less than seven days prior to the outage. Copies of notices and dates of public notification shall be provided by SCE to the CPUC and FS (NFS lands) no later than 30 days following notification

PSU-5 Notification of public service interruption. Prior to the start of construction activities that would restrict access to a maintenance yard, SCE shall notify the Los Angeles County Public Works Department of the service locations to be affected and the duration of restricted activities at each site, and coordinate in order to avoid multiple or extended disruptions. Documentation of coordination efforts shall be completed and submitted to the CPUC and FS (NFS lands) upon request. .

PSU-9 Recycle construction waste. SCE shall recycle a minimum of 50 percent of the waste generated during construction activities along the entire Project route. Following the completion of construction activities, SCE shall submit documentation to the CPUC and FS verifying the recycling of 50 percent of generated Project waste.

A.2.11 Traffic and Transportation

T-1a Prepare Traffic Control Plans. Prior to the start of construction, SCE shall submit Traffic Control Plans (TCPs) to all agencies with jurisdiction over public roads that would be affected by overhead construction activities as part of the required traffic encroachment permits. TCPs shall define the locations of all roads that would need to be temporarily closed due to construction activities, including aerial hauling by helicopter and conductor stringing activities. The TCPs shall define the use of flag persons, warning signs, lights, barricades, cones, etc. to provide safe work areas and to warn, control, protect, and expedite vehicular and pedestrian traffic. The measures included in the TCPs shall be consistent with the standard guidelines outlined in the Standard Specifications for Public Works Construction, the U.S. Department of Transportation's Manual on Uniform Traffic Control Devices (MUTCD), and the Work Area Traffic Control Handbook

(WATCH). Copies of the TCPs shall be sent to the FS and to the planning/or traffic departments of the affected local jurisdictions at least 30 days prior to the start of construction.

TCPs shall also include measures to avoid disruptions or delays in access for emergency service vehicles and to keep emergency service agencies fully informed of road closures, detours, and delays. Police departments, fire departments, ambulance services, and paramedic services shall be notified at least one month in advance by SCE of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. Provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, short detours, and alternate routes developed in conjunction with local agencies. TCPs shall also identify all emergency service agencies, include contact information for those agencies, assign responsibility for notifying the service providers, and specify coordination procedures. Copies of the TCPs shall be provided to all affected police departments, fire departments, ambulance and paramedic services. Documentation of coordination with service providers shall be provided to the CPUC and FS 30 days prior to the start of construction.

T-1b **Restrict lane closures.** Prior to the start of construction, SCE shall submit TCPs to all agencies with jurisdiction over public roads that would be affected by overhead construction activities as part of the required traffic encroachment permits. TCPs shall define the locations of all roads that would need to be temporarily closed due to construction activities, including aerial hauling by helicopter and conductor stringing activities. The TCPs shall define the use of flag persons, warning signs, lights, barricades, cones, etc. to provide safe work areas and to warn, control, protect, and expedite vehicular and pedestrian traffic. The measures included in the TCPs shall be consistent with the standard guidelines outlined in the Caltrans Traffic Manual, the Standard Specifications for Public Works Construction, and the Work Area Traffic Control Handbook (WATCH). Copies of the TCPs shall be sent to the FS and to the planning/or traffic departments of the affected local jurisdictions at least 30 days prior to the start of construction.

TCPs shall also include measures to avoid disruptions or delays in access for emergency service vehicles and to keep emergency service agencies fully informed of road closures, detours, and delays. Police departments, fire departments, ambulance services, and paramedic services shall be notified at least one month in advance by SCE of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. Provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, short detours, and alternate routes developed in conjunction with local agencies. TCPs shall also identify all emergency service agencies, include contact information for those agencies, assign responsibility for notifying the service providers, and specify coordination procedures. Copies of the TCPs shall be provided to all affected police departments, fire departments, ambulance and paramedic services. Documentation of coordination with service providers shall be provided to the CPUC and FS 30 days prior to the start of construction.

T-2 **Prepare Construction Transportation Plan.** Where construction traffic has the potential to significantly affect regional and local roadways by generating additional vehicle trips, SCE shall prepare a Construction Transportation Plan (CTP) describing alternate traffic routes, timing of commutes, reduction in crew-related traffic, and other mitigation methods for reducing construction-generated additional traffic on regional and local roadways. The CTP shall also require construction workers to park personal vehicles at primary and secondary marshalling yards and carpool to work locations in order to limit the number of construction vehicles on the road. Construction vehicles shall be required to park within the Project ROW or on access roads to the maximum extent possible. SCE shall submit the CTP to Caltrans and the affected local jurisdictions for review and approval at least 30 days prior to commencing construction activities.

T-4 **Avoid disruption of bus service.** SCE will coordinate with the Los Angeles Metropolitan Transit Authority, Foothill Transit, Pasadena Area Transit System, Montebello Municipal Bus Lines, Norwalk Transit District, and Omnitrans at least 30 days prior to construction in the respective service territory of each agency noted to reduce potential interruption of bus transit services. Documentation of coordination efforts shall be submitted to the CPUC upon request.

T-5 **Obtain and comply with railroad permits.** SCE shall obtain permits/approvals from each of the affected railway operators (Union Pacific Railroad, Metrolink, and/or Amtrak) to ensure construction activities comply with each company's safety requirements and to avoid disruption to or congestion of rail traffic. Copies of permits shall be submitted to the CPUC prior to construction across or adjacent to rail lines.

T-6 **Ensure pedestrian and bicycle circulation and safety.** Where construction will result in temporary closures of sidewalks or other pedestrian facilities, SCE shall provide temporary pedestrian access, through detours or safe areas along the construction zone, where feasible. Where construction activity will result in bike route or bike path closures, appropriate detours shall be established, where feasible, and detour signs shall be posted. Detours and closures required for safe pedestrian and bicycle access through or around the construction area shall be identified in a circulation plan included in the TCP's required under Mitigation Measure T-1. All detours and related signage shall be consistent with the standard guidelines outlined in the U.S. Department of Transportation's Manual on Uniform Traffic Control Devices (MUTCD).

T-8 **Avoid conflicts with planned transportation improvements.** Prior to final Project design SCE shall coordinate Project design with the California Department of Transportation (District 6, District 7 and District 8), the Los Angeles County Metropolitan Transit Authority, and the traffic departments or public works departments of the counties of Kern, Los Angeles, and San Bernardino and the individual cities through which the proposed transmission route traverses, and to ensure that Project structures are appropriately placed to avoid conflict with any planned transportation projects.

T-10 **Notify US military.** SCE shall provide a complete copy of the Project application, including the general location of the entire project alignment and the heights of towers to be located within each segment of the proposed Project to the Range Sustainability Officer of the Naval Air Systems Command.

T-11 **Provide continuous access to properties.** SCE shall provide at all times the ability to quickly lay a temporary steel plate trench bridge upon request to ensure driveway access to businesses, and shall provide continuous access to properties when not actively constructing the underground alignment. In the event that trench stability could be compromised by the laying of a temporary steel plate bridge during an early phase of trench construction, SCE may defer a request for access to the soonest possible time until the stability of the trench has been assured, provided SCE has provided 48-hour advance notification of the potential for disrupted access to any business that may experience such delayed access. The notification shall include information on restoring access and the estimated amount of time that access may be blocked. In addition, SCE shall develop construction plans that will minimize blocked access during the workday.

A.2.12 Visual Resources

V-1 **Clean up staging areas, storage areas, marshalling yards, helicopter staging areas, access and spur roads, and structure locations on a regular periodic basis.** SCE shall keep construction-related operations areas clean and tidy by storing building materials and equipment within the proposed construction staging areas and/or generally away from public view when feasible. SCE shall remove construction debris promptly at regular intervals.

For areas of non-NFS lands where cleared vegetation would be visible from sensitive viewing locations, SCE shall dispose of cleared vegetation and woody material in a manner that is not visually evident and does not create visual contrasts. For NFS lands, in areas where cleared vegetation would be visible from sensitive viewing locations, SCE shall dispose of cleared vegetation and woody material off-site (not necessarily off-NFS lands), or the cleared vegetation shall be chipped and stored for restoration work, as approved by the FS, and in a manner that is not visually evident and does not create visual contrasts.

V-2a **Use tubular steel poles instead of lattice steel towers in designated areas.** Where feasible, SCE shall use tubular steel poles, rather than lattice steel towers, in locations designated by the CPUC to reduce visual impacts as seen from sensitive receptor locations and/or to match existing and/or future wind turbine generator monopoles and/or to accomplish community desires. SCE shall submit a Structure Type and Treatment Plan to the CPUC as soon as possible after Project approval, demonstrating compliance with this.

V-2b **Treat surfaces with appropriate colors, textures, and finishes.** For all structures that are visible from sensitive viewing locations outside NFS lands, and for all NFS lands, SCE shall treat surfaces with appropriate galvanizing treatments, per APM AES-1, to most effectively blend the structures with the visible backdrop landscape, as determined by the CPUC (for non-NFS lands) and the FS (for NFS lands). For structures that are visible from more than one sensitive viewing location, if backdrops are substantially different when viewed from different vantage points, the darker color shall be selected, because dark colors tend to blend into landscape backdrops more effectively than lighter colors, which may contrast and reflect light, producing glare. At locations where a lattice steel tower or a tubular steel pole would be silhouetted against the skyline, non-reflective, light gray colors shall be selected to blend with the sky. The transmission line conductors shall be non-specular and non-reflective, per APM AES-4, and the insulators shall be non-reflective and non-refractive, per APM AES-3. SCE shall consult with the CPUC and the FS to ensure that the objectives of this measure are achieved. SCE shall submit a Structure Type and Treatment Plan for the lattice steel towers, tubular steel poles, conductors, insulators, substation structures, fences/walls, retaining walls, and any other visible structures, to the CPUC and FS, as appropriate, after Project approval, demonstrating compliance with this measure.

V-2c **Establish permanent screen.** At Vincent Substation, SCE shall establish a permanent screen of sufficient height for immediate visual screening around the new expansion area of Vincent Substation. Plant materials selected for screening shall be locally appropriate, wind-resistant, non-invasive, and acclimated to the particular environment and micro-climate. Other screening materials shall blend in with the local landscape. SCE shall consult with the CPUC to ensure that the objectives of this measure are achieved. SCE shall submit a landscaping plan for Vincent Substation that demonstrates compliance with this measure to the CPUC for review and approval at least 60 days prior to the start of construction at this substation.

V-2d **At road crossings, structures should be offset so that they are equidistant on each side of the road where feasible.** To the extent practical, in locations designated by the CPUC and the FS (for NFS lands), SCE shall relocate new transmission line structures at road crossings and trail crossings so that conductors are approximately mid-span at the road or trail and structures are kept away from the roadway or trail as far as possible. V-2d is compatible and complementary to APM AES-6 (Transmission Structures Set Back from Major Roadways).

V-3a **Match spans of existing transmission structures.** If the new Project components are adjacent to an existing transmission line, SCE shall, where feasible, match existing structure spacing and spans as closely as possible in order to reduce visual complexity as seen from sensitive receptor locations. All new structures should also match the heights of existing transmission line structures to the extent possible as dictated by variation in terrain and kV-capacity of lines.

V-3b **On NFS lands, provide restoration/compensation for impacts to landscape character and visual quality.** All reasonable efforts shall be made to meet the Scenic Integrity Objectives (SIOs) shown on the SIO Map in the ANF Land Management Plan. SIO adjustments that exceed a drop of more than one SIO level would require a Project-specific amendment to Forest Plan (Part 3) Standard S10. In order to compensate for the Project's long-term visual impacts to the landscape character and visual quality, including but not limited to impacts to landscape character and visual quality of scenic highway and scenic trail viewsheds, SCE and the Forest Supervisor shall reach a consensus on what is a commensurate amount of restoration, monetary compensation, or landscape character/visual quality improvement.

V-4a **Construct, operate, and maintain the project using existing access and spur roads where feasible.** For non-NFS lands and in locations designated by the CPUC, to protect landscape character and promote visual quality, SCE shall remove existing transmission line towers and conductors using existing and already maintained access roads and spur roads, and shall construct the new transmission line using the existing and already maintained network of access roads and spur roads to the greatest practical extent. SCE shall submit plans for any new access roads and spur roads, and any maintenance plans for un-maintained access and spur roads, demonstrating compliance with this measure, to the CPUC for review and approval at least 60 days prior to the start of construction.

For NFS lands, to protect landscape character and promote visual quality, SCE shall use only those access roads and spur roads designated by the FS for that purpose.

For the new LST at Mill Creek Summit, SCE shall maintain vegetative screening as seen from the PCT, trailhead, and PCT feeder trail to the extent feasible and practical and as GO-95 allows. In an effort to protect the scenic integrity along the PCT, SCE and the FS have agreed that for the new LST at Mill Creek Summit, the existing vegetation around this tower and along the PCT, for the most part, shall not be cleared and will be preserved to the greatest degree possible without violating GO-95 Rule 35. The only sections that should be cleared of vegetation for operation and maintenance at this specific tower site is the area directly underneath the base of the new tower and the immediate space adjacent to FS Road 3N17 and the new tower (STR 34 M7-T2).

V-4b **Slope-round and re-contour in areas as prescribed.** For areas of non-NFS lands where natural terrain includes rounded landforms, where soil types are conducive, and where cuts-and-fills and excavated materials would be visible from sensitive viewing locations, SCE shall employ slope-rounding techniques to blend earthwork with natural contours where feasible. Greater land area would be disturbed by this measure, possibly increasing exposure to soil erosion and possibly causing more vegetation disturbance, but the goal of this measure is a permanent landform that is natural-appearing in the long-term and may be more conducive to wildlife movement. During and following re-contouring, applicable mitigation measures of the other issue area sections shall be applied, including biological resources, cultural resources, geology and soils, hydrology and water resources, wilderness and recreation, land use, and possibly agricultural resources. SCE shall submit plans for proposed new, upgraded, or newly maintained access roads and spur roads or structure pads to the CPUC for approval at least 60 days prior to construction.

V-4c **Avoid locating new roads in bedrock on NFS lands.** Where feasible, re-opened and/or new access road and spur road locations on NFS lands shall be designed to avoid bedrock cuts, and shall be located in soil material to protect landscape character, ensure revegetation opportunities, and promote visual quality. SCE shall submit road construction plans to the CPUC and FS for review and approval at least 60 days prior to the start of construction.

V-4d **Dispose of excavated materials as prescribed.** For non-NFS lands, SCE shall dispose of excavated materials (soil, rocks, and concrete, and reinforcing steel) in a manner that is not visually evident and does not create visual contrasts. For NFS lands, SCE shall dispose of

excavated materials (excess soil and rocks) in disposal areas (either on-NFS lands or off-NFS lands) as designated by the FS. For NFS lands, the FS will designate whether any footings from existing transmission structures need to be removed. Any designated footings designated for removal (concrete, reinforcing steel, angle steel, anchor bolts, etc.) shall be disposed off-NFS lands in disposal areas that do not create visual contrasts. These sites shall be pre-approved by the CPUC and FS.

A.2.13 Wilderness and Recreation

R-1a **Coordinate construction schedule and maintenance activities with managing officer(s) for affected recreation areas.** SCE shall develop the Project construction schedule and coordinate construction with the authorized officer(s) or the agencies of all recreational areas affected by Project construction, including but not limited to the following: FS (ANF); U.S. Army Corps of Engineers (USACE); California Department of Fish and Game (CDFG); Pacific Crest Trail Association (PCTA); California State Park and Recreation Commission; California Department of Parks and Recreation; Kern County Department of Parks and Recreation; Los Angeles County Department of Parks and Recreation; San Bernardino County Regional Parks; Puente Hills Landfill Native Habitat Preservation Authority (Habitat Authority); Watershed Conservation Authority (WCA); and San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy (RMC).

Through coordination efforts with the agencies listed above as well as any additional agencies that manage recreational resources which would be affected by the Project, SCE shall ensure the following occurs unless otherwise approved by the affected agencies:

- Construction and maintenance activities are scheduled to avoid heavy recreational use periods (including major holidays) to the maximum extent feasible, with the understanding that such efforts may not always be feasible;
- Staging areas for Project-related equipment, materials, and vehicles are located in areas with least possible effect on recreational activities and opportunities; and
- Timetables for the required period of usage of each staging area are developed and adhered to in coordination with all affected resource agencies.

In addition to coordination of construction activities, SCE shall also coordinate maintenance activities with the FS and the USACE, as applicable, when such activities occur on federal lands. SCE and the presiding federal agency will need to determine what type of maintenance activities require prior approval, versus those that may be conducted on a routine basis without additional coordination. All Project activities on federal lands are subject to the approval of the presiding federal agency (FS or USACE). The purpose of this requirement is to ensure that the FS and USACE are aware of any maintenance activities on federal lands that are more intensive than what is considered routine.

SCE shall document its coordination and provide this documentation to the CPUC and the FS no less than 30 days prior to the onset of construction activities.

R-1b **Identify and provide noticing of alternative recreation areas.** SCE shall coordinate with the authorized recreation officer(s) or the agencies of all recreational areas affected by Project activities described under Mitigation Measure R-1a (Coordinate construction schedule and maintenance activities with managing officer(s) for affected recreation areas), the purpose of which is to accomplish the following:

- Identify recreational areas (i.e., trails, parks, day-use areas) that would be closed during Project construction or maintenance activities;

- To the extent feasible, identify alternative recreational areas for each resource that would be made unavailable to the public due to Project construction or maintenance activities; and
- Post a public notice which identifies alternative recreational areas at FS Ranger Stations within the ANF and at all recreational areas to be closed due to Project construction or maintenance activities.

SCE shall document these coordination efforts to identify and provide noticing of alternative recreational areas and submit this documentation to the CPUC and the FS no less than 30 days prior to construction activities that would occur within one-half mile of wilderness or recreation areas that would be affected by such activities.

R-1c **Notification of temporary closure of OHV routes.** SCE shall coordinate with the FS (ANF) to identify all Operational Maintenance Level (OML) 2 roads and other designated off-highway vehicle (OHV) routes which would be closed or otherwise made unavailable for use as a result of Project construction and/or maintenance activities. Included in this coordination effort, SCE shall prepare a public notice which identifies all OML 2 roads and OHV routes to be closed as a result of Project construction and/or maintenance activities and shall comply with the following:

- Distribute the public notice to relevant FS Ranger Stations within the ANF;
- Publish the public notice in local newspapers which service communities bordering the ANF;
- Publish updated notices in local newspapers if any significant changes in scheduling occur; and
- Maintain public notices and postings throughout the OML 2 road / OHV route closure period.

SCE shall document these coordination efforts related to OML 2 road / OHV route closures and submit this documentation to the CPUC and FS no less than 30 days prior to construction activities that would affect OHV routes.

R-1d **Notification of temporary closure and reroute of the Pacific Crest National Scenic Trail (PCT).** SCE shall coordinate with the FS and with the Pacific Crest Trail Association (PCTA) regarding temporary closure of the PCT that would occur during Project construction and maintenance activities. The following shall be included in this coordination effort:

- SCE and the PCTA shall identify trail diversions to be applied at each point where the PCT would be temporarily closed to through-traffic as a result of Project construction and maintenance activities; and
- SCE shall post public notices of temporary closures/diversions of the PCT at FS Ranger Stations within the ANF and at additional locations determined to be appropriate by the PCTA. The public notice shall provide information on temporary trail reroutes that would be implemented during construction and maintenance activities as well as the time period for implementation of such reroutes**.**

SCE shall document these coordination efforts, including the location of all posted notices, and submit this documentation to the CPUC and the FS for approval no less than 30 days prior to construction activities that would occur within one-half mile of the PCT.

R-1e **SCE shall compensate ANF for lost income from adventure pass sales due to recreation area closures associated with the project.** Prior to the onset of Project construction in the ANF, SCE shall coordinate with the FS to identify recreational resources on NFS lands in the ANF that would be temporarily closed as a direct result of Project construction. A resource is only considered to be closed directly as a result of Project construction if the resource is made entirely inaccessible to the public as a sole result of Project activities; in other words, no other factors

contribute to the resource's inaccessibility. SCE shall coordinate with the FS in reviewing financial records of the Adventure Pass program as well as recreational use data for the ANF, in order to determine a compensation amount comparable to the direct impacts of the Project.

R-5 **Avoid permanent upgrades to forest system roads.** SCE shall avoid the permanent upgrade of Forest System roads as a result of Project construction or operation and maintenance activities unless otherwise approved by the FS. Any road upgrades that are required to accommodate construction of the Project shall be temporary in nature. Following construction of the Project, existing OML standards designated for any temporarily improved roads shall be adhered to, thereby returning improved roads to existing maintenance practices, unless otherwise authorized by the FS. As determined to be necessary through coordination between SCE and the FS and at the discretion of the FS, SCE shall develop a plan for returning improved Forest System roads to existing conditions. SCE shall implement the restrictions for road improvements and maintenance set forth in the Special Use or Road Use Authorization to be issued by the FS for the Project.

A.2.14 Wildlife Prevention and Suppression

F-1 **Prepare Wildland Traffic Control Plans.** SCE shall develop wildland traffic control plans in consultation with the FS and Puente Hills Landfill Natural Habitat Preservation Authority (PHLNHPA), as appropriate. The wildland traffic control plans shall stipulate mechanisms through which narrow roads shall be kept passable for emergency service providers in a wildfire-related or other emergency situation. SCE shall appoint a Road Master, who shall administer the wildland traffic control plans and facilitate emergency vehicle access in the event of a wildfire-related or other emergency. The wildland traffic control plans shall identify strategic locations for adequate construction and maintenance vehicle parking, as necessary, in consultation with the land management agency, and alternate routes for large equipment and vehicle evacuation shall be identified to the extent possible. Wildland traffic control plans shall be prepared in consultation with the land management agencies for both construction and maintenance activities and shall be submitted to the FS and PHLNHPA at least 30 days prior to construction in areas managed by thee agencies.

F-3a **Revise SCE's Fire Management Plan for maintenance activities.** SCE's Fire Management Plan shall be revised to be applicable to Project maintenance activities located off NFS lands. All provisions of the Plan that are applicable to construction crews and activities shall be made applicable to maintenance crews and activities. The revised Plan shall be submitted to the CPUC and FS for review at least 60 days prior to construction.

F-3b **Cease work during red flag warning events.** During Red Flag Warning events, as issued daily by the National Weather Service in State Responsibility Areas (SRA) and Local Responsibility Areas (LRA), all non-emergency construction and maintenance activities off NFS lands shall cease in affected areas. An exception shall be made for transmission line maintenance and testing activities required to maintain accordance with NERC Reliability Standards. All maintenance and testing activities shall employ fire-safe practices as required by the Fire Management Plan (APM HAZ-4 as modified by Mitigation Measure F-3a).

F-3c **Ensure open communication pathways.** All construction crews and inspectors shall be provided with radio and cellular telephone access that is operational along the entire length of the approved route to allow for immediate reporting of fires. Communication pathways and equipment shall be tested and confirmed operational each day prior to initiating construction activities at each construction site. All fires shall be reported to the fire agencies with jurisdiction in the Project area immediately upon ignition.

Each crew member shall carry at all times a laminated card listing pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on contact cards

shall be updated and redistributed to all construction crew-members, as needed, prior to the initiation of construction activities and on the day the information change goes into effect. Outdated cards shall be destroyed.

F-3d **Remove hazards from the work area.** SCE shall clear dead and decaying vegetation from the work area prior to starting construction and/or maintenance work. The work area includes only those areas where personnel are active or where equipment is in use or stored, and may include portions of the transmission ROW, construction laydown areas, pull sites, access roads, parking pads, and any other sites adjacent to the ROW where personnel are active or where equipment is in use or stored. Cleared dead and decaying vegetation shall either be removed or chipped and spread onsite in piles no higher than six (6) inches.

F-3e **Comply with non-smoking policy on PHLNHPA lands.** SCE and contractor personnel shall comply with the non-smoking policy on PHLNHPA lands during construction and maintenance activities, and this commitment shall be written into SCE's Fire Management Plan for construction and maintenance.

F-3f **Share costs for ANF fuelbreak maintenance.** SCE shall enter into a cost-sharing agreement with the FS for maintenance of the existing system of fuelbreaks. Cost-sharing for fuelbreak maintenance shall be required for backbone fuelbreaks in close proximity to the Project or that transect the path of the Project. A backbone fuelbreak is an identified key ridge or other linear geographical feature that has a high level of effectiveness in slowing or containing a wildfire. Backbone fuelbreaks in the vicinity of the Project include: Santa Clara Divide, Mill Creek, Flintridge, Clear Creek, Millard, Brown Mountain, Clamshell, Santa Anita Dam, Chantry and Monrovia (a.k.a. Redbox/Rincon). SCE's responsibility under the cost-sharing agreement would be proportional to the Project's potential impacts on wildfire prevention and suppression.

F-3g **Provide transmission line safety training to ANF staff.** SCE shall provide transmission line safety training to FS (ANF) staff prior to the start of the official fire season on an annual basis.

F-4 **Prepare and implement Emergency Evacuation Plan.** SCE shall prepare an Emergency Evacuation Plan to ensure the safe and expedient ground-based evacuationn of personnel in the event of an uncontrolled fire in the Project area, including addressing the Tujunga Creek bridge area. The Plan shall make explicit the following elements: a schedule of the locations of all personnel during the fire season, conditions under which to evacuate, chain of command, communications with ANF Emergency Operations Center, and identification of evacuation routes. An emergency evacuation officer shall be appointed to educate personnel about emergency evacuation routes prior to each day's construction activities, to carry out the Plan in the event that an evacuation order is issued or that a nearby uncontrolled fire threatens personnel safety, and to update the plan should access conditions change. The Emergency Evacuation Plan shall be submitted to the FS and PHLNHPA, as appropriate, for review and comment at least 30 days prior to Project construction.

A.2.15 Electrical Interference and Hazards

EIH-1a **Limit the conductor surface electric gradient.** As part of the design and construction process for the Project, SCE shall limit the conductor surface electric gradient in accordance with the Institute of Electrical and Electronic Engineers Radio Noise Design Guide.

EIH-1b **Document and resolve electronic interference complaints.** After energizing the transmission line, SCE shall respond to, document, and resolve radio/television/electronic equipment interference complaints received. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by SCE to the CPUC for resolution.

EIH-2 Implement grounding measures. As part of the siting and construction process for the Project, SCE shall identify objects (such as fences, metal buildings, and pipelines) within and near the ROW that have the potential for induced voltages and shall implement electrical grounding of metallic objects in accordance with SCE's standards. The identification of objects shall document the threshold electric field strength and metallic object size at which grounding becomes necessary. SCE shall install all necessary grounding measures prior to energizing the transmission lines. Thirty days prior to energizing the lines, SCE shall notify in writing, subject to the review and approval of the CPUC, all property owners within and adjacent to the Project ROW of the date the line is to be energized. The written notice shall provide a contact person and telephone number for answering questions regarding the line and guidelines on what activities should be limited or restricted within the ROW. SCE shall respond to and document complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be deferred by SCE to the CPUC for resolution.

The written notice shall describe the nature and operation of the lines, and SCE's responsibilities with respect to grounding all conducting objects. In addition, the notice shall describe the property owner's responsibilities with respect to notification for any new objects, which may require grounding and guidelines for maintaining the safety of the ROW.